An evaluation of Intensive Interaction in community living settings for adults with profound learning disability

Thesis

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An evaluation of Intensive Interaction in community living settings for adults with profound learning disability

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ABSTRACT

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DEDICATION

To the late Geriant Ephraim: a clinical psychologist ahead of his time.

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1.0 INTRODUCTION

Social inclusion (Department of Health [DoH], 2001a) is desirable for all regardless of disadvantage or disability. This study focuses on an intervention called Intensive Interaction (Nind & Hewett, 1988, 1994). It is a transactional approach that enhances the responsiveness of carers thereby improving the fundamental communication and social abilities of people with complex learning disabilities and hence influencing their social inclusion. The Introduction defines key terms; outlines theoretical models underpinning support of people with profound learning disabilities [PLD] for whom the approach is applied here, reviews the background and evidence base for II and presents the research aim and hypotheses.

1.1 Definitions

1.1.1 Profound Learning Disability

Learning Disability [LD] is a social construct (BPS, 2001) thus whatever the assumed aetiology, the presence and degree of LD is determined in relation to cultural and historical norms. Labelling is important to enable discourse about appropriate support, and to meet research requirements to describe participants and aid replication. Nevertheless, its negative impact must not be underestimated (Wolfensberger, 2000; BPS, 2001). The World Health Organisation [WHO] (1993) definition of profound mental retardation [*sic*] includes IQ under 20 and 'mental age' of below three years in adults. The American Psychiatric Association [APA] (1994) definition includes IQ below 20/25 and describes support needs.

> Most individuals (...) have an identified neurological condition (...) During (...) childhood (...), they display considerable impairments in sensorimotor functioning. Optimal development may occur in a highly structured environment with constant aid and supervision and an individualised relationship with a caregiver. Motor development and self-care and communication may improve if appropriate

> training is provided. Some can perform simple tasks in closely supervised and sheltered settings (APA, 1994, p.41).

The BPS (2001) notes that such low IQs are not directly testable, cautions both against extrapolation and reference to 'mental age' but does not suggest alternatives. The American Association on Mental Retardation (1992) defines level of LD in terms of the degree of support required so Hogg & Lambe (2000) equate 'pervasive' support with PLD. However, this does not necessarily distinguish between PLD and profound physical disability *without* LD. For the purpose of this study Ware's (1996, p.iv) definition is used: people with PLD are functioning at a 'developmental level of two years or less (in practice often well under one year)'.

1.1.2 Intensive Interaction

Intensive Interaction is 'the specific interactive approach (...) to facilitating the development of social and communication abilities in people with SLD[1] based on the model of caregiver infant interaction' (Nind & Hewett, 2001, p.vi). Intensive Interaction provides 'a framework for valuing and promoting conversation, especially with people with little or no language and limited social interest' (Ephraim, 1998, p.212). It needs to be 'done with intensity, sensitivity and critical reflection' (Hewett & Nind, 1998, p.1). It is 'characterised by regular, frequent interaction between the practitioner and learner in which there is no focus on task or outcome but in which the primary concern is the quality of the interaction itself' (Nind, 1999, p.97). For the purposes of this study Nind and Hewett's definitions are adopted.

[1]Severe LD (SLD) encompasses PLD

1. 2 Theoretical underpinnings to the support of people with PLD

Within a British historical framework, support for people with PLD may be viewed as underpinned by differing theoretical traditions based on models of early human development (biological, behavioural, cognitive and contextual) and on the principle of normalisation/human rights.

1.2.1 Biological Model

In the early 20th century the biological model prevailed. Instinctive behaviour patterns were seen as unfolding in a biologically determined age-related sequence, IQ was construed as a measure of fixed potential and support for people with PLD comprised hospitalisation for containment rather than education or treatment. Medical advances have since led to the identification of genetic abnormalities with associated behavioural phenotypes (O'Brien & Yule, 1995). People with PLD frequently have multiple motor and sensory impairments and fluctuating arousal (Hodapp, 1998; Hogg, 1998). The phenomena of emotional overload and sensory hypersensitivity have also been highlighted (Caldwell with Stevens, 1998; Caldwell with Hoghton, 2000). A pattern of cognitive deficits differing from the sequence of normal development has been called the 'cognitive difference' model of LD (Zigler & Balla, 1982). Adherence to the biological model can result in pessimism about the impact of support. Indeed the individual may even have a deteriorating condition. Nevertheless, there is evidence that despite the presence of neurological damage gains in competence and quality of life may be achieved with appropriate support (Hogg, 1998; Hughes, 1998).

1.2.2 Behavioural Model

The behavioural model views development primarily as response to events [cf. Pavlov, Watson, Skinner and Bandura]. The Education Act (1944) recognised that children with milder LD could be trained whereas those with the most severe LD remained uneducable and untrainable. However in a groundbreaking experiment,

Fuller (1949) discovered that operant conditioning previously only researched with animals, could be applied to a 'vegetative human organism' [*sic*] where differential arm raising was rewarded with drink. More recently contingency-awareness in infants with PLD has been studied and the notion of 'secondary motivational handicaps' proposed (Brinker & Lewis, 1982). This state associated with negative affect has also been described as 'learned helplessness' (Seligman, 1975). Personal experience of insufficient control over events is likely to reoccur throughout the lives of adults with PLD.

From the 1950s, behavioural approaches transferred to more naturalistic settings and proliferated (Hogg & Sebba, 1986b). Using functional analysis they have been applied to skill acquisition (Carr *et al.*, 1994; Mansell, Felce, Jenkins & Flight, 1984; McBrien & Foxon, 1981). They have also been applied to the reduction of challenging behaviour especially self-injury and stereotypy. Both proactive and reactive strategies have been employed (Carson, Clare & Murphy, 1998; Emerson, 1995). The power of sensory reinforcement has been recognised in developing various abilities including communication (Bunning, 1996; Jones, 1989). Contingency-awareness and control has been encouraged using micro-switches (Ellis, 1997; Glenn & O'Brien, 1994) either in daily life or in multi-sensory environments (Hogg, Cavet, Lambe & Smeddle, 2001; Lindsay *et al.*, 2001; Pagliano, 1998) and the responsiveness of the social environment has been increased (Ware, 1996). Nevertheless significant neurological damage has been found to impair learning and the phenomenon of 'spontaneous extinction' noted (Hogg & Sebba, 1986; & Lambe, 2000). Despite the trend towards nonaversive methods such as Gentle Teaching (McGee, Menolascino, Hobbs & Menousek, 1987) with its underlying humanistic philosophy valuing human participation and interaction above skill acquisition, behavioural approaches have been criticised for being disempowering (Ephraim, 1998; Lovett, 1985) and inadequate for teaching complex communication and social abilities (Nind & Hewett, 1994).

1.2.3 Cognitive Model

The cognitive model views humans as active agents of their own development, occurring in qualitative stages in a non-random order that cannot be reduced to the passage of time [cf. Piaget]. Zigler and Balla's (1982) 'developmental delay' model of LD implies that any cognitive deficits are similar to those found within normal limits for a child being present or absent in the usual sequence. Hence people with PLD may be considered to be developing much more slowly than normal. Werner and Inhelder (cited by Hodapp, 1998) found that the abilities of people with milder LD generally followed the Piagetian sequence. However, regression and oscillation were observed. Application of Piaget's sensorimotor period to adults with PLD has found similar results with uneven profiles disrupted by epilepsy or emotional instability (Woodward, 1959). Nevertheless, a Piagetian curriculum has achieved success (Kahn, 1979) and Williams' (1996) matched group study resulted in gains in development of nearly one month of overall age equivalency per individual per year for six years compared with no control group change. Sensorimotor skill assessment checklists have since been devised (Dunst, 1980 as cited in Hogg & Sebba, 1986a; Coupe & Levy, 1985).

1.2.4 Contextual Model

Following pioneering work by Bell (1969) much research has explored the reciprocal micro-system of early caregiver-infant interaction. In the dynamic social context of early life, both caregiver and infant initiate maintain and respond contingently to each other's behaviour (vocalisation, gaze, expression, proximity, gesture and touch) with mutual pleasure, which enhances motivation for both partners to repeat and develop interactive games (Papousek, 1995). Caregivers employ an 'implicit pedagogy' (Carlson & Bricker 1982), providing a safe fun learning environment. They use mirroring/imitation (Stern, 1983), synchronised rhythmic interaction (Arco & McClusky, 1981), burst-pause activity leading to the development of anticipation (Schaffer, 1977) and contingent responding (Carlson & Bricker, 1982). Constant micro-adjustments to behaviour occur to make it more meaningful to the infant via slowing, exaggerating and prolonging (Stern, 1977). Modified speech or 'motherese' (Weistuch & Byers-Brown, 1987) is high-pitched,

melodic and slow with frequent questions and a simplified linguistic code (Snow, 1977). Its content relates to the infant's present experience thus creating a joint focus (Clark & Seifer, 1983). The caregiver adjusts the level of their response to match and follow the infant's lead (Bruner, 1983). Social/physical contact becomes reciprocal (Brazelton, 1984).

All these strategies maintain optimum levels of arousal (Beebe, 1985) to create a sense of efficacy for the infant. They also facilitate turn-taking (Schaffer, 1977). This starts with the caregiver building pauses into their dialogue so that the infant appears to have a turn. The caregiver attributes communicative intentionality to the infant's behaviour (Schaffer, 1977; Trevarthen, 1995) and accepts a wide range of actions and vocalisations as meaningful. Over time this acceptance narrows as experiences provide a balance between the familiar and challenging to promote learning (Bruner, 1983; Vygotsky, 1978 as cited in Hodapp, 1998). Eventually when communication really flows it is almost impossible to distinguish who initiates and who responds (Fogel, 1993). In attachment terms, features of caregivers that provide this experience become internalised and serve as a secure base from which to explore and operate in the world (Ainsworth, 1973). Poor attachment in early life can be a precursor to psychological distress in both the short (Bowlby, 1971) and long term unless steps are taken to ameliorate it (Murray Parkes, Stevenson-Hide & Marris, 1991)

The contextual model appears to provide an integration of the other models described above. It acknowledges innate maturational factors (biological), uses reinforcement and contingency-awareness (behavioural) and construes the infant as an active participant (cognitive). This model underpins several recent interventions for people with PLD and related disabilities especially those designed to improve communication and sociability. As II is described in the next section, other similar interventions will be mentioned here. Clark and Seifer (1983) encourage caregivers to adjust to the atypical responses of infants with disabilities whilst Tucker and Kretschmer (1999) explore the need for parents of older children with PLD to do this too. Ware (1996) outlines the development of an emotionally responsive environment. Movement therapy (Burford, 1986; Sherbourne, 2001) is based on the synchronicity and movement rhythms of early

caregiver-infant interaction. Ways of enhancing pre-intentional and pre-verbal communication are outlined by Coupe O'Kane and Goldbart (1998) and Siegel-Causey and Guess (1989). Caldwell (1996) describes how to establish contact and communication with people with complex needs through the creation of personalised equipment. Music therapy endeavours to establish interaction through shared musical experience (Hooper, 1993) and draws on diverse theoretical backgrounds including contextual development (Heal & Wigram, 1993). In the Son-rise Program (Autism Treatment Center of America, 2002) the teacher follows the child's interest and engages in their reality in order to develop shared attention. Musical Interaction therapy (Christie & Wimpory, 1986) has a musician providing a 'running commentary' through music and song accompanying play activity with a teacher. These approaches vary in the extent to which their efficacy has been evaluated or to which their similarities and differences have been illuminated.

1.2.5 Normalisation/Human Rights

The normalisation movement arose in the 1960s to promote ordinary patterns of life for people with LD (Nirje, 1969 as cited in Wolfensberger, 1983). Subsequently, the Education (Handicapped Children) Act (1970) allowed all children to be educated and the United Nations Declaration of Rights of Disabled People (1975) (as cited in Jones, 1993) stated that people with disabilities have the same fundamental rights as others. Wolfensberger (1983, 2000) renamed normalisation 'social role valorization' [SRV] emphasising the promotion of culturally valued lifestyles via culturally valued means and highlighting the pervasively negative impact of devalued social roles on *anyone* regardless of disability.

'Age-appropriateness', a key idea arising from normalisation/SRV, is of particular relevance to people with PLD. This refers to 'social expectations, opportunities and experiences' (O'Brien & Tyne, 1981, p.15) typical for a particular chronological age and culture. For an adult to be treated as a child has been considered one of the most disrespectful 'wounds' for people with LD (Race, 1999). It has been supposed that if people with LD were treated as adults rather than as children they would gain adult competencies and if they behaved

more like adults they would have a more positive social image and hence be more accepted by society (Porter, Grove & Park, 1996). It has also been suggested that self-esteem is enhanced from participation in age-appropriate activity (Calhoun & Calhoun, 1993). Yet there is little agreement about what activities, materials and resources are appropriate at different chronological ages and the relationship between age-appropriate methods and outcomes in terms of self-esteem or competence has been little researched (Matson, Sadowski, Matese & Benavidez, 1993). Calhoun and Calhoun (1993) found that engagement in chronologically age-appropriate versus age-inappropriate activities by a woman with Down's syndrome was associated with a higher estimated IQ and reading level as perceived by undergraduates. However *no* significant differences were found in ratings of likeability or social distance. A similar study has not been conducted with people with PLD nor with the general public as observers.

O'Brien (1987, p.177) translated SRV into five service accomplishments: 'community presence and participation, choice, competence and respect.' Nind and Hewett (1996, p.51) stress the respect afforded by recognising an individual's adult status *and* taking account of 'their level of language development (...) understanding of the social world and (...) emotional maturity'. Burton and Sanderson (1998) conclude that models of early human development and normalisation/SRV differ in emphasis (on values, theories and methods and in process versus outcome) rather than that they are fundamentally incompatible. Indeed Wolfensberger (1972, p.132) wrote of the 'profoundly retarded and/or multiply handicapped' [*sic*] 'we must distinguish between higher expectancies and normal ones, (...) distinguish between various areas of functioning and (...) impose realistically high and occasionally normal expectancies on selected areas and selected individuals'.

More recently Wolfensberger (1998, p.108) proposed 'the developmental model is one of the most universally relevant and applicable service models' and notes it requires effective teaching techniques, equipment and environments but does not state *where* to begin. For the purposes of SRV, he has also consistently appeared to prioritise the social status of the group over individual subjective experience (Nind

& Hewett, 1996; Szivos, 1992). Under this circumstance 'choice' (O'Brien, 1987) clashes if a non-age-appropriate activity is preferred and paves the way for coercion when perceived social image is at stake (Lovett, 1996). In practice, carers, perplexed how to build 'competence' (O'Brien, 1987) when age-appropriate activities have limited meaning for people with PLD, judge them as choosing not to engage, possibly resulting in neglect (Crichton, 1998; Samuel & Pritchard, 2001). Studies of quality of life at home (Bratt & Johnston, 1988; Emerson & Hatton, 1998; Perry & Felce, 1994) and in day services (Felce *et al.*, 1999; Pettipher & Mansell, 1994; Rose, Davis & Gotch, 1994) show that severity of LD is a significant risk factor. Concern has even been expressed that leading edge developments (DoH, 2001a) are relevant mainly to people with milder LD (Emerson *et al.*, 2001). These include self-advocacy, user involvement in service planning and evaluation, prioritising paid work, accessible literature and support by non-familial community members rather than service providers. The allocation of carer time also presents a challenge. Ordinary infants usually have one of a select few carers nearby. The APA (1994, p.41) definition of profound mental retardation [*sic*] includes 'an individualised relationship with a caregiver'. Even with de-institutionalisation, services have rarely achieved this level of support for adults (Mencap, 2002). Staff teams are usually large, part-time with high turnover.

In practice, many carers of adults with PLD intuitively use approaches from an earlier developmental age than the individual's chronological age (e.g. simplified speech), but despite this they appear reluctant to consider that an adult might have cognitive functioning equivalent to an infant's, possibly because it is considered even more devaluing to be compared with an infant than a child. However, rather than taking a principled stance based on SRV, carers may be unaware either about the sequence of ordinary human development or about definitions of PLD. Pratt (2000) found that only 20/ 54 home support staff estimated the general developmental level of people with PLD as less or equal to three years. Underestimating ability is unwise because of the vicious circle of low expectation, opportunity and performance that transpires (O'Brien & Tyne, 1981) yet overestimating ability is equally detrimental (Bartlett & Bunning, 1997; Purcell, Morris & McConkey, 1999).

Downs and Craft (1997, p.189) offer a rationale for using culturally appropriate rhymes and tunes with adults in terms of 'the comfort derived from the familiarity and simplicity of the music'. Caldwell with Stevens (1998) emphasises empowerment by echoing the person's language. McIntosh and Whittaker (2000, p.20) quote a mother who learned to mirror her adult daughter's sounds: 'I used to have a child who I had to look after, now I have a person I can chat to all the time'.

1.2.6 Integration

Adults with PLD clearly differ from infants without disabilities. They have uneven profiles of cognitive deficits in perception, memory, information-processing and contingency-awareness, exacerbated by slow maturation, sensory or physical impairments and mental illness (Hogg & Lambe, 2000; & Sebba, 1986a). Nevertheless abilities in any given sub-domain are likely to follow the sequence of ordinary development (Coupe O'Kane & Goldbart, 1998). Adults with PLD have had much longer than infants without LD to learn repeated patterns of unusual behaviours (e.g. stereotypy or self-injury) (Ephraim, 1997; Caldwell, 1996) as ways to reduce stress and shut out the unsafe external world as a consequence of unpredictability, trauma, pain or sensory hypersensitivity or to provide interest in an otherwise under-stimulating environment. Adults with PLD differ from children in terms of their legal and civil rights. No one can consent for them (DoH, 2001b) and sexual expression is supported (Downs & Craft, 1997).

An integration of understanding from models of early human development with an awareness of the socio-political and cultural context, ethnicity, gender, age and unique life-history of learning experiences, attachment and abuse would seem appropriate in the support of adults with PLD. An intervention that perhaps attempts to do all this is Intensive Interaction.

1.3 Intensive Interaction

1.3.1 Background

Nind and Hewett (1988, 1994), teachers in a school of a long-stay institution, developed Intensive Interaction [II] based on a clinical psychologist Ephraim's earlier ideas of 'augmented mothering' (Ephraim, 1982 as cited in Ephraim, 1997). Nind and Hewett were teaching young adults with profound and complex LD who did not seem to understand or enjoy proximity or contact with others. When interactive play based on the intuitive creativity of caregivers with infants replaced a mainly behavioural approach, significant gains in communication and social abilities and reduction in challenging behaviour were soon noted and the process quickly became highly rewarding for the practitioners (Nind & Hewett, 1994).

II begins with 'accessing': a phase of observation to get a sense of the participant and try out techniques (for example, mirroring an aspect of their behaviour). This enables the participant both to recognise the practitioner's behaviour and to learn that they can control it (Miller & Ephraim, 1988; Caldwell, 1996). A 'familiar repertoire of mutually enjoyable interactive games and playful ritualised routines' (Hewett & Nind, 1998, p.2) develops. Typical games include '*peek-a-boo*', *'I'm going to getya'* and '*round and round the garden'*, also vocalising, blowing raspberries, rocking, tapping, tickling in turn. Any proximity and interaction is negotiated with the practitioner responding sensitively to the participant's signals to initiate, maintain, change or terminate involvement (Nind & Hewett, 1994). II may or may not use objects, equipment or music; can be fleeting or last for many minutes and can occur during formal sessions or informally as part of day-to-day activities, the latter Nind & Hewett (1994) termed 'interactivity'. It aims to be fun, to increase the participant's awareness and anticipation of events leading to pre-emption and initiation (RNIB, 1993).

Attention to the professional elements of planning, monitoring and critical reflection makes II an intervention, which is different to the intuitive educational approach used by an ordinary caregiver with a non-disabled infant. Written records of what happened; new developments and *how it felt* to the practitioner as well as

video-recording is advised (Nind & Hewett, 1994, 2001). Thus practitioners can learn to develop their interactive style from perhaps being too forceful and overriding to responsively expanding, elaborating and extending engagement (Clark & Seifer, 1983).

II is ethically sensitive given the application of an infant development model to older children and adults, its use of physical touch in a climate of concern about abuse (Cambridge & Carnaby, 2000) and its enhancement of attachment in circumstances of high carer turnover. Hence effective teamwork, supervision and management support are essential (Nind & Hewett, 2001). Proponents stress that II is not about re-parenting or compensation for missed experiences (Nind & Hewett, 1998). Kellett (2001) notes how it differs from intuitive parenting in that the playful interactive techniques are constantly intellectualised, reflected upon and evaluated and team working encouraged instead of the exclusivity of the caregiver-infant dyad. Nevertheless, it is possible that circumstances were less than optimal in the relationship between people with PLD and their parents during early childhood. There is much literature on the stress of caring for a child with disabilities (Davis, 1993) and on the negative impact of early institutionalisation (Tizard, 1972). On occasion Ephraim (1997) found that he was merely introducing what was already occurring elsewhere (for example, parents singing rhymes during home visits). Yet some parents or other carers may be making the gap between current skill and expectation too large from an early age, expecting too much or being too directive (Bartlett & Bunning, 1997; Carlson & Bricker, 1982; Clark & Seifer, 1983; Tucker & Kretschmer, 1999; Ware, 1996). Alternatively they may become discouraged as progress is minimal or the use of little or unusual social signalling by the person with PLD is not reinforcing (Fraiberg, 1974). Either way a common experience for people with PLD is of an unresponsive social environment, enabling little participation, control or fun. Hence there is a need for ongoing external support for carers (Clegg, Standon & Jones, 1996; Nind & Hewett, 2001).

II is also controversial for valuing stereotypy as a medium for creating the opportunity for communication (Ephraim, 1998; Caldwell, 1996; Nind & Kellett, 2002). Although its function varies, such behaviour has

been construed as needing explicit reduction for interfering with learning, being or becoming self-injurious and presenting a negative social image (Jones & Williams, 1998).

1.3.2 Theory development and efficacy

There is a growing evidence base for II. Ephraim (1982) initially described the model. Davis (1985 as cited in Nind & Hewett, 1994) wrote about its usefulness in special education. Miller and Ephraim (1988) describe its use in teacher training within a hospital school. Nind and Hewett (1988) describe their experiences as special school teachers and Ephraim (1986) describes a practitioner training course. Nind and Hewett (1994) outline theory, describe techniques and present some narrative case-studies. Hewett (1995, 1996) wrote about the method. Hewett and Nind (1998) edited a collection of narrative accounts written by practitioners from diverse professional backgrounds (including some parents) in a range of settings supporting both children and adults. Hewett and Nind interleave commentaries and elaborate on the theory. Irvine (1998, 2001a & b) and Samuel (2001a & b) describe its introduction to adults in community settings.

Caldwell with Stevens (1998) present case examples and Hawkins (1998) describes II's effective use with a 'difficult-to-reach' five-year old school girl. Nind & Powell (2000) write about its application for children with autism. Kennedy (2001) gives a narrative account of its success with a young woman with PLD and severely self-injurious behaviour [SIB] moved to supported living. There is also an increasing literature on how to participate in II specifically (Hewett, 1996; Nind & Hewett, 2001; Irvine, 2002) or within general texts (Bradley & Ouvry 1999; Ouvry, 1998).

1.3.2.1 Empirical studies with children

Knight and Watson (1990; Watson, 1994; Watson & Knight, 1991) studied six staff- pupil pairs in a special school for children with SLD aged 10-19 years through an academic year. About four sessions were timetabled per week. Videos were made during up to six sessions at approximately six weekly intervals.

Two 1-minute samples from sessions were described. Practitioners kept written records and were interviewed at the end of each filming. Results showed progress occurred more obviously for some pupils than others. Each pair developed preferred styles of interaction that provided a context for enhanced development. Toys were useful aids for interaction and there was a considerable and overwhelmingly positive consensus from staff about II's benefits. This study had no baseline or control.

Examining data about the same six pupils, Watson and Fisher (1997) present encouraging results from II compared with the effectiveness of other classroom experiences over the course of the school year. Rapid and positive change occurred during II sessions compared with ratings of typical communicative behaviour on the Pre-Verbal Communication Schedule [PVCS] (Kiernan & Reid, 1987) by those not involved but who knew the children well in the classroom context. Using independently rated video and session recordings, II was also found to compare favourably with the effects of teacher-directed group activities for the same pupils (Fisher, 1994).

Kellett (2001) evaluated II for six children with SLD aged four to eight years in two community special schools and an integrated nursery. Ten-minute daily sessions occurred over one academic year. The practitioners were three teachers and three learning support assistants who were all novices to II but knew the participants. Nind provided a day's training occurring before the baseline phase (to fit the school training schedule). The design was based on Nind's (1993) multiple-baseline across participants interrupted time-series (see below). This was used to facilitate sensitive description of complex patterns of outcomes over time. Measures included behaviour coding in real time and from video observation, weekly or fortnightly 5-minute long examples of the sessions and of behaviour out of session. The PVCS and an adaptation of Brazelton's (1984) Cuddliness Scale: the Physical Sociability Scale [PSS], were used and qualitative data collected from session records and practitioner interviews.

All six participants developed their communication and social abilities. Some even progressed toward formal communication (signing or single words). Rapid positive changes were found in attention to facial gaze, joint focus and eye contact whilst other behaviours (e.g. contingent vocalisation) emerged gradually and stereotypy reduced substantially. Case studies from this research are being published (Kellett, 2000; 2003) and others described (Kellett & Nind, 2001).

1.3.2.2 Empirical studies with adults

Nind (1993, 1996) evaluated the impact of II on six institutionalised adults aged 27-36 years with severe and complex LD, ritualistic behaviour and social remoteness. They were introduced to II within the hospital school. Here teachers and classroom assistants were already using the approach with regular supervision within the team of which Nind was a senior member. For the purposes of this evaluation, two daily II sessions were offered and progress was monitored over 12-18 months. Outcomes indicated that participants learned new behaviours encouraging others to be with them: facial regard, eye contact, happy facial expression and vocalisations, and showed a trend towards a reduction in stereotypy. The time participants spent in interactive social behaviour also increased. All registered higher scores on the PVCS and the Cuddliness Scale. Nind did not report in depth the practitioners' view of progress; however, Hewett (1995) did for the same sample.

Lovell, Jones and Ephraim (1998) describe a single-case experiment. The participant was a 53-year old man with severe LD: withdrawn and pre-verbal but mobile with basic self-care skills living in an institution where II was unfamiliar. The expert practitioner (Ephraim) was a stranger to the participant. An alternating treatment design was used. The conditions were 5-minute II sessions and five minutes of 'proximity' (the practitioner remained near the participant but not interacting with him). The study occurred over three days during a single week. Determined randomly, nine II and eight 'proximity' sessions were conducted. Data were analysed using 10-second momentary time sampling from video. The II condition was found to be associated with increased initiating physical contact, looking at people, joint attention, smiling/laughing and

vocalising and decreased face-hiding whereas 'proximity' showed the same changes but to a lesser extent. Although required for the research design, the participant initiating contact which is unreciprocated during the 'proximity' condition presents an ethical dilemma in terms of a developing relationship with the practitioner (Kellett & Nind, 2001) yet probably mirrors the real world of intermittent opportunities for quality interaction with carers. Unfortunately participant illness terminated this study prematurely. The initial success was not subsequently transferred to novice staff despite one nurse commenting that she had never seen the participant so happy.

Nind (1999) describes empirical support for using II for people with autism by re-examining one of the cases from Nind (1993). She also presents some successful narrative case-studies and surveyed teacher views via a postal questionnaire with follow-up interviews.

Irvine (1998) introduced II in a newly created day-service for fourteen adults with PLD. Resources did not permit baseline or in-depth video analysis; nevertheless progress over the first six months was monitored via written feedback from practitioners. Twelve participants were thought to be happier, more relaxed and secure and had clearly identifiable intentional communication, nine were initiating interaction and eight were allowing more physical contact. Only one participant, with autism and a very troubled past, was not thought to progress.

Jones and Williams (1998) carried out two single-case experiments using a similar design to Lovell *et al.* (1998) to evaluate what they termed II but appeared to be an analysis of only one component: the impact of imitation by a novice practitioner (staff member) on the frequency of stereotypy (hand-flapping) in a 35-year old institutionalised man with PLD and visual impairment. The authors question the clinical significance of the minimal reduction in stereotypy that occurred but acknowledge that this was a tough test for II given the nature of the behaviour and the practitioner's limited expertise. They conclude 'it holds promise for use as a reductive procedure with inappropriate behaviour' (p.24).

Elsworth (1999) explored the views of ten volunteer home-support staff who had first tried II locally. An in-depth semi-structured interview schedule was used, interviews recorded and content analysed (Robson, 1993). Results suggested staff viewed II very positively. Perceiving development both in participant and practitioner skill, the pleasurable interaction arising for both and the improvement in their relationship were seen as contributing to II's continued use. This study's findings are limited by its sample size. It is also unknown whether or not the changes perceived had actually occurred.

Hawker (1999) carried out a single-case experiment as an adaptation of Lovell *et al.* (1998). The participant was a woman with PLD, severe physical and dual sensory impairment. Eight home-support staff, with varying prior experience of II, were trained to use two 5-minute interventions: II and 'proximity[2]'. Some had also already attended the Trust's half-day introductory workshop facilitated by Nind. The study occurred over four consecutive morning shifts. It also compared behaviour during 'control' (i.e. no intervention). Twenty–second momentary time sampling was used to analyse videos. Results found no evidence that the participant's behaviour varied as a function of intervention type, time or practitioner prior experience of II. However, informal observation indicated that some practitioners deviated from the agreed procedure and used features of II (e.g. exaggerated or contingent responding) in both conditions and some did not follow the principles of II even within that condition (e.g. not pausing, no contingent responding). Thus the differences in the conditions were not as clear as intended and could explain the negative result. Another shortcoming of this study was its brevity, given the number of practitioners and the severity of impairments of the participant.

Atkins, McDonald and Samuel (2002) explored the outcomes from II introduced over four years within one service. Twenty-seven clients each had a developmental assessment indicating II might be appropriate and planning, monitoring and supervision were documented. Data were gathered from notes, semi-structured

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[2] Unlike Lovell *et al.* (1998), practitioners could respond to any initiation during 'proximity'.

interviews with practitioners and a postal questionnaire to key Community Team for people with LD [CTPLD] members. Results found that 22/27 clients were still participating (6/27 'formally' and 16/27 'informally'). Session structure and content varied and objects were widely used. Only seventeen respondents had attended training and most did not use reflective practice. Attendance at the local peer support group was limited (4/27) and there was little awareness (10/27) or use (5/27) of the Trust Guidelines on II (Trust, 1998). Nevertheless, most clients were thought to have progressed especially with eye contact, involvement in regular interaction and focusing attention for longer periods of time. This study is limited being based on staff perception, only one interview occurring per client and a definition of II was neither given nor requested.

Elgie and Maguire (2001) present a single-case experiment with a 39-year old blind woman with PLD and serious self-injurious behaviour [SIB], in a small residential home. The practitioners were a clinical psychologist and his trainee. It is unclear if either was 'expert' or how well they knew the participant. Video observational measures were used. The intervention comprised three sessions per week for sixteen weeks. Results showed an increase in spontaneous hand contact and vocalisation but no change in SIB. The authors concluded that the negative finding for SIB was not surprising given its longevity. Follow up comprised training support staff in II.

1.3.3.3. Practitioner skill

Nind, Kellett and Hopkins (2001) presented the first published study exploring II practitioner behaviour. They completed a small in-depth investigation of four volunteer practitioners' talk styles in II with participants with SLD aged 3-19. Eight videos were analysed for the presence of aspects of 'motherese' (Section 1.2.4). Use was found to be less consistent than within Nind's own training clips. The authors note the sample was small and lacked baseline data and the video analysts had varying experience of II.

1.3.3.4 Conclusion

Researching the support of people with PLD presents challenges. It is difficult to find a representative experimental or matched control group (Hogg & Sebba, 1986a). The use of a reversal or alternating design is ethically questionable hence the use of quasi-experimental methodologies (Cullen & Mappin, 1998; Kellett & Nind, 2001). Unfortunately these are not rated highly in systematic reviews of evidence (cf. Cochrane). Each efficacy study about II is context bound and the heterogeneity of people with PLD weakens any claim to establishing population validity. Studies vary in the robustness of their design, participant and setting characteristics and practitioner and video-coder expertise. Nevertheless they indicate that II is 'likely to be beneficial' in health gain notation about communication development (Health Evidence Bulletins Wales, 2001, p.12). It has also been found to improve the quality of relationships with clients as perceived by staff (Elsworth, 1999).

1.3.3 Gaps in knowledge

Nind (1993) evaluated II with institutionalised adults in a setting immersed in II in which she worked. Kellett (2001) extended the evidence base by evaluating II with young children and exploring implementation factors in settings where she had introduced II as an external non-practitioner researcher. Factors that appear to influence success include: context, practitioner skill and emotional stability, training, management support and supervision received, session frequency, intervention duration and client variables including diagnoses, history and severity of disability. II has been investigated mostly within educational settings. Further research needs to explore its impact on people with learning disabilities over a wider age range and variety of settings: at home with families, in supported living, in colleges and day services. Cultural and gender issues also require scrutiny.

1.4 Research aim and hypotheses

The context for this study is community living settings for adults with PLD. The research aim is to evaluate the impact of II, facilitated by novice practitioner home-support staff on the abilities of adults with PLD they support and on the quality of their relationship. Given the gaps in knowledge (Section 1.3.3), this is an exploratory study. As such it is not possible to make specific predictions about the degree of change. The hypotheses are:

1. Home-support staff as novice practitioners can learn to use the principles of II.
2. II with novice practitioners will have a positive impact on the communication and social abilities of people with PLD.
3. II with novice practitioners will have a positive impact on the quality of their relationship with people with PLD as perceived by the staff.

2.0 METHOD

2.1 Design

A quasi-experimental interrupted time-series multiple-baseline across four participants design was used in partial replication of Nind (1993) and Kellett (2001). Variation in participant number and study duration was due to the scope of the Doctorate course and variation in practitioner number was due to staff and setting characteristics (Section 2.2).

2.1.1 Quasi-experimental

A quasi-experimental design is used when ethical and practical dilemmas preclude a conventional experiment (Cook & Campbell, 1979) but where the proposed research has high social validity (Kellett & Nind, 2001). It is a challenge to establish a control group with people with PLD of varying aetiologies because of the difficulty in obtaining a good sample population match (Hogg & Sebba, 1986a). The use of a reversal or alternating design is ethically questionable in investigation of interventions aimed at enhancing relationships (Kellett & Nind, 2001) especially where previous research has already determined benefits. In the 'real- world' context of the home environment with conflicting priorities, illness and other extraneous variables, conditions cannot be strictly controlled. In this study the participants were chosen and clinical follow-up arranged. However multiple measures were used to aid triangulation and minimise threats to validity (Glynn Owens, Slade & Fielding, 1996).

2.1.2 Interrupted time-series

A time-series compares data across time for an individual or group (Gottman, 1981). It may consist of repeated measurement before and after the introduction of an intervention (i.e. the interruption). In this study (cf. Nind, 1993; Kellett, 2001) video data were collected either weekly/fortnightly making five probe-points

during the 6-week baseline and twelve during the 20-week intervention. Assessment and questionnaire data were collected at four probe-points: the beginning and end of the baseline, six weeks in (equivalent to the baseline length) and at the end of the intervention. Session records and historical logs were kept and anecdotes noted.

2.1.3 Multiple-baseline

In a multiple-baseline across participants' design the same intervention is applied to different participants following a baseline phase. The design is more robust if the intervention start is staggered. If participants make progress at or soon after the point of intervention any functional relationship between progress and intervention is strengthened (Cook & Campbell, 1979). This claim is made more plausible when replicated across participants in independent settings and where the baseline is sufficiently long and flat enough to rule out maturation or other extraneous factors (Cook & Campbell, 1979). In clinical practice it is often impossible to achieve a stable baseline so it is recommended that the intervention phase should be extended for at least the duration of the baseline (Morley, 1996). However a long baseline presents an ethical dilemma especially after training practitioners who are keen to begin (Kellett & Nind, 2001). In this study, each participant's baseline commenced one week apart and lasted six weeks.

2.1.4 Analysis methods

Time-series analysis is concerned with noting significant change across phases (Cook & Campbell, 1979; Kazdin, 1984). This is reflected in a change in:

- level (discontinuity);
- slope (trend);
- drift (presence/absence of trend);
- rapidity of change (continuous, discontinuous, instantaneous, delayed); or
- phase means.

These patterns of data may be viewed by visual inspection of graphs with descriptive statistics used to facilitate presentation (Robson, 1996). Jones, Vaught & Weinrott (1976) suggest that stable baselines and marked intervention effects render further statistical analysis unnecessary. Statistical manipulation may even iron out clinically interesting variability (Kellett, 2001). However, visual inspection alone may under or overestimate the effect of drift or of outliers (Jones, Weinrott & Vaught, 1978) thus differing conclusions may be reached by relying on visual or statistical criteria. Statistical time-series analysis depends on serial dependency and transforming data. In order to attain statistical significance, each phase must contain sufficient data-points; at least fifty or a hundred being recommended by some researchers (Kazdin, 1984). This is often impossible in clinical settings where any small number of time-series is better than a single pre and post-test design (Cook & Campbell, 1979). Phase means are often the focus in applied research as they relate 'directly to the goal of the intervention: namely, changing the overall rate of performance' (Kazdin, 1984, p.279).

In this study, behaviour percentage occurrences are presented graphically with phase means[3]. Sequential quantitative assessment tool and questionnaire data are tabulated, the latter with modes and ranges. Qualitative data and anecdotes are also presented. Although causality cannot be assumed given the quasi-experimental design, the clearer the phase mean/mode level change at the start of the intervention, equivalent in duration to the baseline (Morley, 1996), and replicated across participants, the stronger the indication of a functional link between the onset of II and progress. From previous research (Nind 1993; Kellett, 2001) a positive slope continuing across the remaining intervention phase would also be predicted due to ongoing improvement in practitioner and participant skill. There is also likely to be a delayed effect for the participant behaviours considered to emerge later in the developmental sequence (Section 1.3; Section 2.3.1.2).

[3] Phase trend lines were also to be calculated. However, despite sufficient probe points planned (≥ 5 per phase cf. Nind, 1993), unfortunately, insufficient useable data transpired (Section 3.1.1).

2.2 Settings, participants and staff

2.2.1 Settings

The proposal was shared sequentially with Trust senior and local managers and home support team leaders [HSTLs]. In choosing the settings (Table 1), the practicalities of location, rapport with management, and the stability and enthusiasm of the support teams were considered. Given recent developments within the service, some potential participants and staff already had experience of II. However the clients identified had not participated formally and the intervention phase was to be marked clearly by the introduction of regular sessions reflected on by practitioners.

Table 1. Settings: accommodation, co-tenants and staffing ratio

	Settings[a]			
	1	2	3	4
Accommodation (Years built/adapted)	Adapted (5)	Purpose-built for six (17)	Purpose-built for six (16)	Purpose-adapted (3)
Co-tenants[b]	Two women (PLD)	Three women and two men (moderate/PLD)	Two women and three men (severe /PLD)	Two women (PLD)
Staffing ratio	2:2	3:5	3:5	2:2

[a]housing association bungalows in four dispersed market towns [b]including participants

2.2.2 Participants

Participants were identified via knowledge of previous input, level of impairment and setting (Table 2 & 3). Due to the degree of their intellectual impairment, people with PLD lack capacity to consent to participate in research. Consequently the DoH (2001b) advises against their inclusion unless there is no alternative. As this is so in this study, key people (i.e. the HSTL and where applicable family members and/or an advocate) were asked for their agreement to the individuals participating. Having read the Information Sheet [Appendix 1], they signed an Agreement Form [Appendix 2]. The participants' GPs were also contacted.

Table 2. Participants: impairments, developmental level and service provision

	Participants[a]			
	Alice[b]	Betty[b]	Clare[b]	Diana[b]
Age	32	56	46	23
Diagnoses	Cerebral Palsy Severe scoliosis Dysphagia (gastrostomy) Epilepsy	Cerebral Palsy Severe Kypho-scoliosis Sleep disorder	Cerebral Palsy Severe scoliosis Microcephaly Epilepsy	Tuberous Sclerosis Epilepsy Autistic features Kyphosis Mild scoliosis
Vision	Squint/short sight (glasses)	OK	OK	OK
Hearing	OK	OK	OK	OK
Mobility	Uses wheelchair Flexion contractions	Wheelchair Bottom shuffles at home	Use wheelchair Uncontrolled movements	Uses wheelchair No longer walks-can stand for transfer
Vineland Adaptive Behaviour Scale[c] (Age equivalents)	0-3 months	0-1 yr 1 month	0-1 yr 2 months	0-8 months
History of services				
In care from age:	26	6	2	21
Years in present accommodation	5	11	15	2
School	SLD day	-	-	SLD day
Present activities (sessions per week-unless indicated)	Sensory room (1) Music (1) Swimming (1)	Music therapy (1) Aromatherapy (1) Sensory room (daily)	-	Day centre (2 days) College (2 days) Sensory room (daily) Swimming (1)

[a]white British women [b]pseudonym [c]Sparrow, Balla and Cicchetti (1984)

Table 3. Participants: characteristic behaviours

Participant	Characteristic behaviours
Alice	Sitting, not moving, looking around. Occasionally blowing raspberries, smiling, yawing or screaming. Entertained by visual and tactile stimuli and rattles manipulated by staff.
Betty	Sitting or bottom shuffling. Manipulating a rubber mat, sock or slipper pressing it against her face. Lowers forehead to touch arm of chair or floor. Slapping side of face hard with left hand. Occasional loud shouts, otherwise unsmiling facial gesture. Leg-shaking. Manipulates stimuli offered by staff, especially in the sensory room.
Clare	Sitting sleepily in wheelchair or lying on bed. Listening to broadcast music. Smiling and tongue thrusts. Constant movement. Pulling at clothes or bedding. Entertained by chat or musical toys worked by staff.
Diana	Sitting shaking with right hand a slinky or other toy that makes a slight sound and air movement. Sometimes willing to swap for others offered by staff. Rubbing her left leg or the seat with her left hand. Looking out of the corner of eye. No obvious vocalisation, few smiles.

2.2.3 Staff

Staff recruited comprised three 'practitioners[4]' and 'observers' per participant (Tables 4 & 5). Volunteers were sent an Information Sheet [Appendix 1] and Consent Form [Appendices 3 & 4]. The 'practitioners' were home-support staff, already working with the participant, willing to be videoed throughout, receive II training, participate in baseline interaction and in II, and where possible, attend a monthly II peer Support Group. The training comprised a half-day workshop facilitated by Nind[5] [Appendix 10]. Described in Nind & Hewett (2001) the Support Groups were facilitated by a psychologist (the researcher or a colleague). These groups had run for several years and enabled carers to reflect on practice together across settings. Despite complex shift patterns and part-time working it was hoped three practitioners would ensure five II sessions per week and Support Group attendance. The 'observers' were other home-support staff in the same setting, not deliberately using principles of II throughout the study but contributing their views on progress.

2.2.4 Assistant Psychologist

A 22-year old assistant psychologist [AP] was recruited. She had four years experience of supporting people with LD in a residential setting during her gap year and in activity clubs/camps as an undergraduate. She did the filming and functioned as an additional practitioner because of the perceived risk to the viability of the study of relying on home-support staff (with a turnover of 17% per annum). This mirrored local practice of introducing II with an AP or trainee visiting regularly to participate and support reflection.

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[4] Having three practitioners is in line with the Trust Guidelines (Trust, 1998) that advise against a sole practitioner.
[5] As she had provided for the Trust for four years

Table 4. Practitioners: demographic details, experience and training

		Participants				
		Alice	Betty	Clare	Diana	Total
Gender	Female	3	2	3	3	11
	Male	-	1	-	-	1
Age	<25	-	-	-	-	0
	26-35	1	1	2	1	5
	36-45	2	1	-	1	4
	46+	-	1	1	1	3
Job title/relationship with the participant	Home Support Worker [HSW]	3	3	3	2	11
	HSTL	-	-	-	1	1
Academic/professional qualifications	None stated	1	1	2	1	5
	GCSE (only)	2	1	1	-	4
	Degree/diploma	-	1	-	1	2
	Nursing/management	-	-	-	1	1
NVQ qualification being sought	Level II/III (care)	3	2	2	2	9
	Level IV (management)	-	-	-	1	1
Experience of people with LD	< 1 year	--	-	-	1	1
	1-<5 years	-	1	-	1	2
	5-<10 years	1	1	2	1	5
	>10 years	2	1	1	0	4
Experience of the participant	< 1 year	-	-	-	1	1
	1-<5 years	1	3	1	2	7
	5-<10 years	1	-	1	-	2
	>10 years	1	-	1	-	2
Experience of caring for babies <one year old	Yes	3	3	2	3	11
	No	-	-	1	-	1
Previous II training	Yes	2	1	-	2	5
	No	1	2	3	1	7
Previous II use	Yes	3	1	-	2	6
	No	-	2	3	1	6

Table 5. Observers: demographic details, experience and training

		Participants				
		Alice	Betty	Clare	Diana	Total
Gender	Female	3	3	3	3	12
	Male	-	-	-	-	-
Age	<25	-	-	1	1	2
	26-35	1	1	-	-	2
	36-45	-	1	2	1	4
	46+	2	1	-	1	4
Job title/relationship with the participant	HSW	3	2	2	2	9
	HSTL	-	1	1	-	2
	Mother	-	-	-	1	1
Academic/professional qualifications obtained	None stated	2	2	1	2	7
	GCSE (only)	1	-	1	-	2
	Degree/diploma	-	-	-	1	1
	Nursing/management	-	1	1	-	2
NVQ qualification being sought	Level II/III (care)	3[a]	2	2	1	8
	Level IV management)	-	-	-	1	1
	None	-	1	1	1[b]	3
Experience of people with LD	< 1 year	1	-	-	-	1
	1-<5 years	-	-	2	2	4
	5-<10 years	2	-	-	-	2
	>10 years	0	3	1	1[c]	5
Experience of the participant	< 1 year	1	-	-	-	1
	1-<5 years	-	1	2	2	5
	5-<10 years	2	-	-	-	2
	>10 years	-	2	1	1[c]	4
Experience of caring for babies <one year old	Yes	3	3	2	2	10
	No	-	-	1	1	12
Previous II training	Yes	2	2	1	2	7
	No	1	1	1	1	4
	Don't know	-	-	1	-	1
Previous II use	Yes	3	2	2	2	9
	No	-	1	1	1	3

[a]also doing access course, [b] also doing MSc applied social studies [c]as a mother

2.3 Measures

The measures are based on those used in earlier research [Section 1.4.2]. They are designed to be employed frequently, be non-intrusive and show tiny changes through systematic observation (Bakeman & Gottman, 1997).

2.3.1 Video observation and analysis

2.3.1.1 Videos

During the baseline at each probe-point, 5-minute videos were made of:

- the participant 'alone' (behaviour in the normal home environment when staff and co-tenants were not actively interacting with her but were around if she chose to initiate contact);
- the participant in social interaction with a practitioner who was not deliberately using the principles of II (including post-session reflection); and
- the participant in similar interaction with the AP.

During the intervention phase 5-minute videos were made of the participant 'alone' and of II sessions with a practitioner and with the AP.

2.3.1.2 Behaviour codes

Given time pressures only three practitioner behaviour codes were identified based on Clark and Seifer (1983) and Nind *et al.* (2001) [Appendix 5]:

- Mirroring vocalisation and movement;
- Contingent responding; and
- Forcing/overriding.

In line with the first hypothesis, it was hoped that there would be a clear mean level change at the onset of II upward for the first two and downward for the third following training and that this positive trend would continue throughout the intervention.

The participant behaviour codes were based on Nind (1993) and Kellett (2001) but far fewer were used given time pressures. When it became apparent that poor video quality did not permit viable ratings of eye contact or vocalisation the final codes with idiosyncrasies operationally defined [Appendix 6] were:

- 'visual scanning' ('alone');
- 'looking at face';
- 'engagement';
- 'joint focus'; and
- 'initiating social/physical contact'.

In line with the second hypothesis and the literature (Section 1.3; Nind, 1993; Kellett, 2001), it was predicted that progress would follow a developmental sequence with a mean level change upward at the onset of II for 'visual scanning' and 'looking at face'. 'Engagement' then, 'joint focus' and then 'initiating social/physical contact' would be more likely to emerge later in the intervention phase.

2.3.1.3 Analysis

ObsWin (Martin, Oliver & Hall, 1996) was used for analysis. This enabled timing of behaviour on and offsets to be recorded. Each sample was examined repeatedly[6]. Percentage occurrence in each 5-minute sample was calculated. To safeguard internal validity, in addition to the researcher and the AP[7], a volunteer team of six undergraduates and four postgraduate psychologists were trained as raters. Training included familiarisation with and refining operational definitions and practice to improve both intra and inter-rater

[6] Raters found it hard to code more than one behaviour despite this being technically possible.
[7] Who did not code her own sessions.

agreement. Each rater practiced to achieve intra-rater agreement of at least 80% (Kazdin, 1984) on the first 10% of the videos coded for each behaviour and participant. Thereafter Cohen's Kappa was calculated to ascertain reliability, modified to allow for minor discrepancies in reaction time (Reeves, 1994). Kappa scores are considered 'fair' (.4-.6), 'good' (.6-.75) or 'excellent' (>.75) (Robson, 1993). Given rater inexperience, it was hoped that at least 'good' reliabilities would be achieved. Firstly, to determine inter-rater reliability, a second rater coded at least 10% of the videos. Secondly, to minimise the threat to validity from instrumental waning, 10% of the videos were recoded for intra-rater reliability at least one month later (if the rater had not already left).

2.3.2 Pre-Verbal Communication Schedule [PVCS]

The PVCS is a communication assessment for people who do not yet use symbolic language. The PVCS (Short Form) items have the best reliability and have been subjected to validity checks (Kieman & Reid, 1987). The PVCS was completed at the four probe-points by an independent speech and language therapist (SALT) with practitioners as informants.

2.3.3 Staff Questionnaire

Qualitative data were used to explore differences in views between the practitioners and observers. Given time constraints and the numbers involved, rather than perform interviews (cf. Nind and Kellett), a postal questionnaire was devised [Appendix 10]. Before the study and at the four probe-points, expectations about ll both for the participant and the staff team were explored. These questionnaire responses were analysed using content analysis (Robson, 1993) blended with grounded theory principles (Richardson, 1996). The author grouped responses in whole or part with no redundancies or duplication and thereafter devised category labels. An initial intra-rater reliability check was completed on approximately 33% responses picked at random. Inter-rater reliability checks were completed on the same sample with a volunteer

research assistant as second rater. An Intra-rater reliability check was repeated two months later on approximately 25% responses picked randomly. In the final questionnaire respondents were also asked for their views on II continuing and any further training/support needs. Practitioners were also asked about their experience of the Support Groups.

The *Staff Questionnaire* [Appendix 7] incorporated two published measures that are both 8-point criterion-referenced lists of behavioural categories representing a sequence from less to more constructive client engagement:

- the *Interactive Sequence* (Downs & Craft, 1997): 'resists', 'tolerates', 'cooperates passively', 'enjoys', 'responds cooperatively', 'leads', 'imitates' and 'imitates independently'; and
- the *Physical Sociability Scale* (Kellett, 2001 after Nind, 1993): 'actively resists being held', 'resists being held most but not all of the time' through to '... initiates physical contact such as clinging or grasping'.

Descriptive statistics were used to present these data.

2.3.4 Historical Log

Extraneous variables may have had an impact on progress. Information was collected from the staff team about life events, illness and medication changes in a *Historical Log* [Appendix 8]. Relevant anecdotes were also noted.

2.3.5 Reflection Records

Practitioners completed *Reflection Records* (Nind & Hewett, 2001) [Appendix 9], as already used in local clinical practice. Data therein are both descriptive (date, time, place, who with etc.) and qualitative

(practitioner comments). Duration was added. These data were used to triangulate with the video data. A sample has been analysed separately by Norris (2003, supervised by the author) using the *Interactive Sequence*, practitioner behaviour descriptors (Clark & Seifer, 1993) and coding into 'neutral', 'negative' or 'positive' for the participant and practitioner.

2.4 Procedure

2.4.1 Pre-baseline

During the pre-baseline phase filming was piloted and idiosyncrasies identified. The data-gathering schedule was shared and a training date negotiated. Details were given about the Support Groups[8].

2.4.2 Multiple-baseline

The AP visited weekly. During video data collection weeks, the participant was usually first filmed 'alone'. After a gap of at least five minutes between sessions, a practitioner or the AP each engaged the participant in social interaction. The AP wrote the *Historical Log*. The PVCS and *Staff Questionnaire* were administered at the beginning and end of the baseline. The researcher visited during the questionnaire completion week to discuss any queries.

[8] One occurred at Diana's day-centre. The other alternated between the offices attached to Betty or Clare's home.

2.4.3 Training

Training occurred towards the end of baseline. Ideally training should have occurred at the end of baseline for all. However, the cost of four workshops was prohibitive. Consequently practitioners were asked not to use II principles until their intervention phase. Unfortunately two practitioners were absent from the training. Those present consented to the workshop being filmed for these to view subsequently. Each setting was given Nind & Hewett (2001), the Trust Guidelines and plenty of *Reflection Records*.

2.4.4 Intervention

II sessions happened (up to five times per week) and *Reflection Records* were completed. When the AP visited, a session occurred with a practitioner (watched by the AP) and then with the AP (where possible being observed by a practitioner) thereafter a brief reflective conversation about progress ensued with reference to recent *Reflection Records*, and the *Historical Log* was completed. At the agreed interval, 'alone' and II session videos were made. The PVCS and *Staff Questionnaire* were administered after six weeks and at the end. Supervision and support was also provided via the researcher's visits and the Support Groups.

2.5 Ethical considerations

Following authorisation by the Trust's Research and Development Group, the local Psychiatric Research Ethics Committee approved the study [Appendix 11]. Issues of consent are covered above (Section 2.2). To address any concerns or distress, the researcher was contactable via pager.

3.0 RESULTS

3.1 Process

3.1.1 Inputs

The final timetable is given in Table 6. Observations and visits were not always as planned due to the participant being asleep, unwell or distressed, practitioner absence or Bank Holidays. Only six practitioners attended even one Support Group. To address concerns three telephone conversations and one meeting occurred. There were no terminations of involvement. Turnover was as expected: by the end one practitioner had promotion in situ and one observer had moved to the neighbouring team.

Table 6: Timetable of inputs

Participants							
	Alice		Betty		Clare		Diana
b1	A P S						
b2	A	b1	A P S				
b3	A	b2	A	b1	A P S		
b4	A	b3	A	b2	A	b1	A P S
b5	A	b4	A	b3	A	b2	A
b6	A P S	b5	A	b4	A	b3	A
i7	**Training** A	b6	A S **Training**	b5	A **Training**	b4	A **Training**
i8	A	i7	A P	b6	A P S	b5	A
i9	A P G1, G2	i8	A G1, G2	i7	A P G1, G2	b6	A P, S G1,G2
i10	A	i9	A P	i8	A	i7	A
i11		i10		i9		i8	
i12	A P S	i11	A, A	i10	A	i9	A
i13	A G2	i12	A P S, G2	i11	A G2	i10	A G2
i14	A P G1	i13	A G1	i12	A P S, G1	i11	A P G1
i15	A	i14	A	i13	A	i12	A P S
i16	A	i15		i14	A	i13	A
i17	A F	i16	A F	i15	A F	i14	A F
i18	A G2	i17	A G2 V	i16	A G2	i15	A G2 V
i19	A P G1	i18	G1	i17	A P G1	i16	A G1
i20	A	i19	A P	i18	A	i17	A P
i21	A	i20	A	i19	A	i18	A
i22	A G2	i21	G2	i20	G2	i19	G2
i23	A G1 V	i22	A G1	i21	A G1	i20	A G1
i24		i23	A	i22	A P	i21	A
i25	A	i24	A P	i23	A	i22	
i26	A P S G2	i25	A G2	i24	G2	i23	A P G2
		i26	A S P	i25	A	i24	A
				i26	A P S G1	i25	A G1
						i26	A S
						i27	A* G2

Key: Baseline (b1-b6); Intervention (i7-i27); AP's visits (A); Researcher's visits (P); PVCS (S); Peer Support Groups (G1 & G2); PVCS feedback (F); video copy given (V). *extra as Diana ill during i26

As indicated by the *Reflection Records* and the videos, far fewer sessions were reported than the hundred planned (Table 7). It is not clear how many others happened[9]. The frequency of *Reflection Records* completed per week declined over time (Norris, 2003). The number of videos made 'alone' and with the AP[10] were as planned. However, fewer videos than planned were made with practitioners (except Diana's). The spread across practitioners was more uneven than hoped. Video quality varied due to poor lighting, background noise and obscured faces/hands, further reducing the quantity of usable data. Scant and variable data both within and between practitioners rendered trend line analysis impossible and imply phase means must be interpreted with caution, for example; Clare had only two data points in the baseline, as she was so often asleep.

Table 7: Reflection Records and videos made

	Participant			
	Alice	Betty	Clare	Diana
Practitioner 1	24[a] (2+4)[b]	6 (2+1)	7 (1+4)	26 (3+5)
Practitioner 2	17 (1+2)	13 (0+6)	7 (1+4)	11 (1+2)
Practitioner 3	28 (2+3)	17 (2+4)	2 (0+1)	5 (1+5)
Total Practitioner	69 (5+9)	36 (4+11)	16 (2+9)	42 (5+12)
AP	17 (5+12)	19 (5+12)	23 (5+12)	15 (5+12)
Total II sessions	86	55	39	56

[a] *Reflection Records* and/or intervention videos/known sessions without records
[b] baseline and intervention videos

Session duration was requested on the *Reflection Records* (Table 8). Norris (2003) found Alice's sessions tended to be longer during the last third of the intervention, Betty's missing data precluded analysis and for Clare and Diana duration did not change.

Table 8: Session duration

	Participant			
	Alice	Betty	Clare	Diana
Mean (minutes)	13.41	29.29	17.69	7.89
Standard Deviation	6.97	16.27	9.04	3.45
Range	5-30	10-60	5-30	3-15
Sessions with missing data	27/69 (39%)	22/36 (61.1%)	3/16 (18.7%)	20/42 (52.4%)

[9] For example, for Betty two *Reflection Records* summarized many sessions and Clare's practitioners said they offered more than records showed.
[10] AP data are not reported due to time constraints/word count restriction.

The AP's visit prompted the modal time for sessions: Alice: 13/69 (18.8%) Friday mornings; Betty 13/36 (36.1%) Wednesday mornings; Clare 9/16 (56.2%) Tuesday morning/afternoon and Diana: 10/42 (23.8%) Monday afternoons. The modal location was the living room for Alice: 54/69 (78.3%), Betty: 15/36 (41.8%) and Diana: 27/42 (64.3 %); 8/16 (50%) of Clare's sessions occurred in her bedroom and 13/36 (36.11%) of Betty's in the bathroom. The 'alone' condition occurred first for Alice on 16/18 (88.89%), Betty on 14/18 (77.78%), Clare on 9/17 (82.3%) and Diana on 18/20 (90%) of occasions.

3.1.2 PVCS

Unfortunately the original SALT left so another completed the final assessment. All practitioners did not contribute to every assessment.

3.1.3 Staff Questionnaires

The questionnaire return-rate was excellent. Probe-point one: 22/24, two: 24/24, three 3: 18/24 and four: 23/24. Unfortunately some were only partially completed.

3.2 Reliability

3.2.1 Video

Approximately 12% of videos[11] were subjected to inter-rater reliability checks (Table 9) and intra-rater checks at least one month on (Table 10). All mean percentage agreements were at least 80%. All mean *Kappas* were 'good' or 'excellent' apart from 'looking at face' repeat intra-reliability check that was only 'fair', indicating some instrumental waning.

[11] at least two per participant per behaviour code

Table 9: Inter-rater reliability

	% Agreement			*Kappa*		
Codes (all participants)	Mean	S.D.	Range	Mean	S.D.	Range
Looking at face	91.18	5.23	82.65-98.33	0.70	0.06	0.62-0.84
Initiating social/physical contact	97.58	3.17	92.00-100	0.84	0.14	0.66-1.00
Joint focus	94.66	5.81	80.95-100	0.76	0.12	0.59-1.00
Engaged	92.75	5.27	85.33-100	0.73	0.11	0.62-0.86
Visual scanning	90.66	5.82	82.00-100	0.73	0.12	0.54-1.00
Contingent responding	86.56	7.35	77.00-97.00	0.69	0.12	0.54-0.93
Forcing/overriding	98.78	1.75	94.67-100	0.83	0.14	0.61-1.00
Participants (all codes)						
Alice	94.63	5.77	82.65-100	0.77	0.10	0.65-1.00
Betty	93.68	5.3	83.00-100	0.76	0.11	0.62-1.00
Clare	92.60	7.07	80.00-100	0.81	0.14	0.60-1.00
Diana	90.00	7.96	77.00-100	0.66	0.12	0.54-1.00

Table 10: Intra-rater reliability (at least one month on)

	% Agreement			*Kappa*		
Codes (all participants)	Mean	S.D.	Range	Mean	S.D.	Range
Looking at face	86.27	4.55	79.33-90.91	0.51	0.09	0.37-0.61
Initiating social/physical contact	98.35	1.96	95.00-100	0.93	0.08	0.81-1.00
Joint focus	94.06	4.97	87.88-100	0.74	0.19	0.58-1.00
Engagement	91.53	5.54	84.00-99.67	0.70	0.06	0.61-0.79
Visual scanning	88.71	7.18	81.88-100	0.74	0.14	0.59-1.00
Contingent responding	88.43	5.71	79.00-96.00	0.70	0.10	0.53-0.84
Forcing/overriding	99.67	0.47	99.00-100	0.90	0.11	0.79-1.00
Participants (all codes)						
Alice	96.97	4.03	89.33-100	0.80	0.16	0.39-1.00
Betty	91.56	7.67	79.00-100	0.72	0.15	0.53-1.00
Clare	91.56	6.38	79.33-100	0.73	0.18	0.37-1.00
Diana	90.95	6.44	84.00-100	0.76	0.16	0.42-1.00

3.2.2 Staff Questionnaire

From each set of responses concerning expectations about the participant and about the team both by the practitioners and by the observers, twenty (approximately 33%) were picked randomly and divided again into the categories. Initial intra-rater agreement ranged from 56.67-82.14% (mean 70.75%) and initial inter-rater agreement ranged from 40.00-62.50% (mean: 52.19%). Given the low agreement further discussion occurred about definitions and some categories were combined. Thereafter inter-rater reliability was re-determined using *Kappa* [*K*]. For expectations about participants by practitioners *K*=.877 ('excellent') and by observers *K*=.734 ('good'); for expectations about the team by practitioners *K*=.778 ('excellent') and by observers *K*=.681 ('good'). Thereafter all the comments were coded into the finalised categories by the author. Two months later intra-rater reliability was re-determined for fifteen random responses in each set. All were 'excellent'. For participants by practitioners *K*=.879 and by observers *K*=.867; for the team by practitioners *K*=.861 and by observers *K*=.795.

3.3 Historical Log

3.3.1 Alice

Alice had about four seizures per month. From i10 to i14 she was on antibiotics for a swollen ear and unable to wear glasses.

3.3.2 Betty

Betty took Lorazepam (six weeks on: three weeks off). Occasionally she had little or no sleep, urinary tract infections [UTIs] and severe constipation being hospitalised for three nights at the end of b6 for these reasons. At i16 the staff/client ratio was increased from 3:5 to 4:5 in overdue response to the changing needs of a cotenant. Regular activity planning started from i22.

3.3.3 Clare

Clare had a seizure during the week preceding b1 and again in i11. In b3 and i10 she was constipated and evidently distressed.

3.3.4 Diana

Diana's epilepsy medication increased just before b1 then reduced in b4. Seizures were twice weekly from i9 to i17 and returned in i23. She was unwell from i24 when her epilepsy medication was increased then reduced at i27. From i7 to i10 and in i22 Diana was on holiday from college. She stayed with her mother over Christmas (i8).

3.4 Hypotheses

3.4.1 Hypothesis One: Home-support staff as novice practitioners can learn to use the principles of II

Evidence about this hypothesis comes from five sources:

- session videos;
- *Reflection Records;*
- Support Group attendance;
- video feedback use; and
- anecdotes.

3.4.1.1. Session Videos

The videos were initially screened for the presence or absence of mirroring movement and vocalisation.

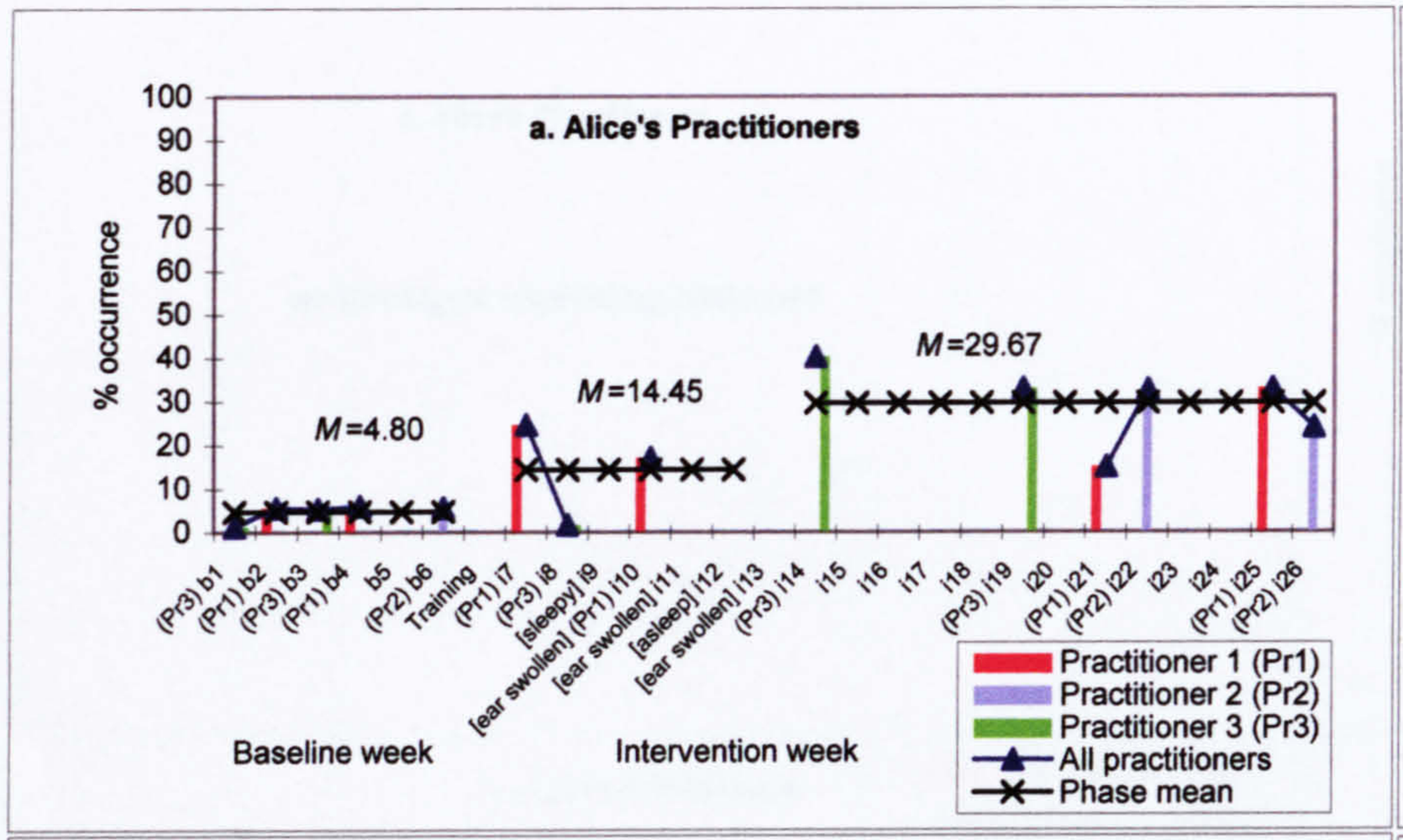
During the baseline, mirroring movement was used in one session with Diana. It began consistently

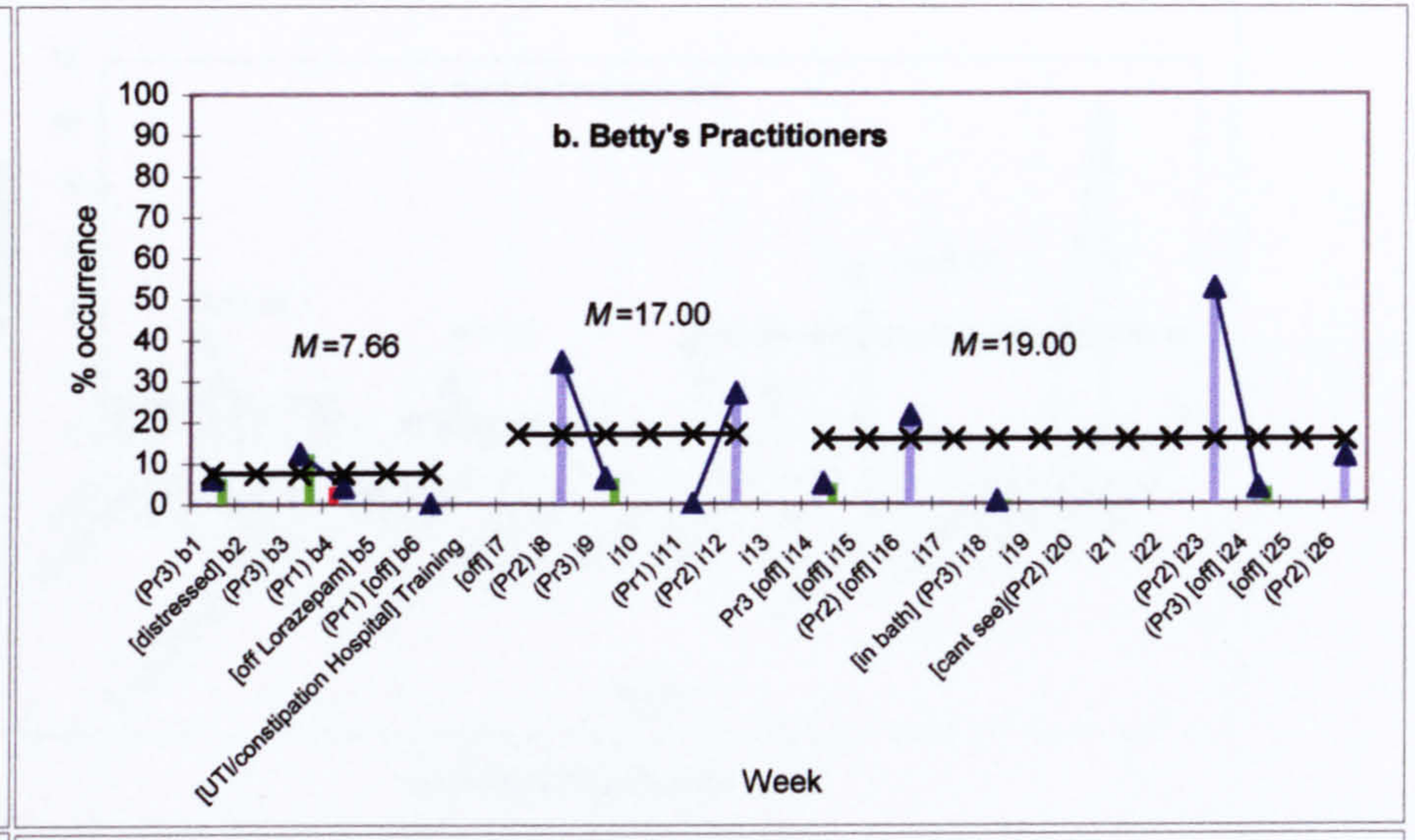
from i7 for Alice and intermittently from i8 for Betty and Clare. No mirroring vocalisation was apparent during the baseline. It began in i7 for Alice and Clare, not until i18 for Betty and never for Diana.

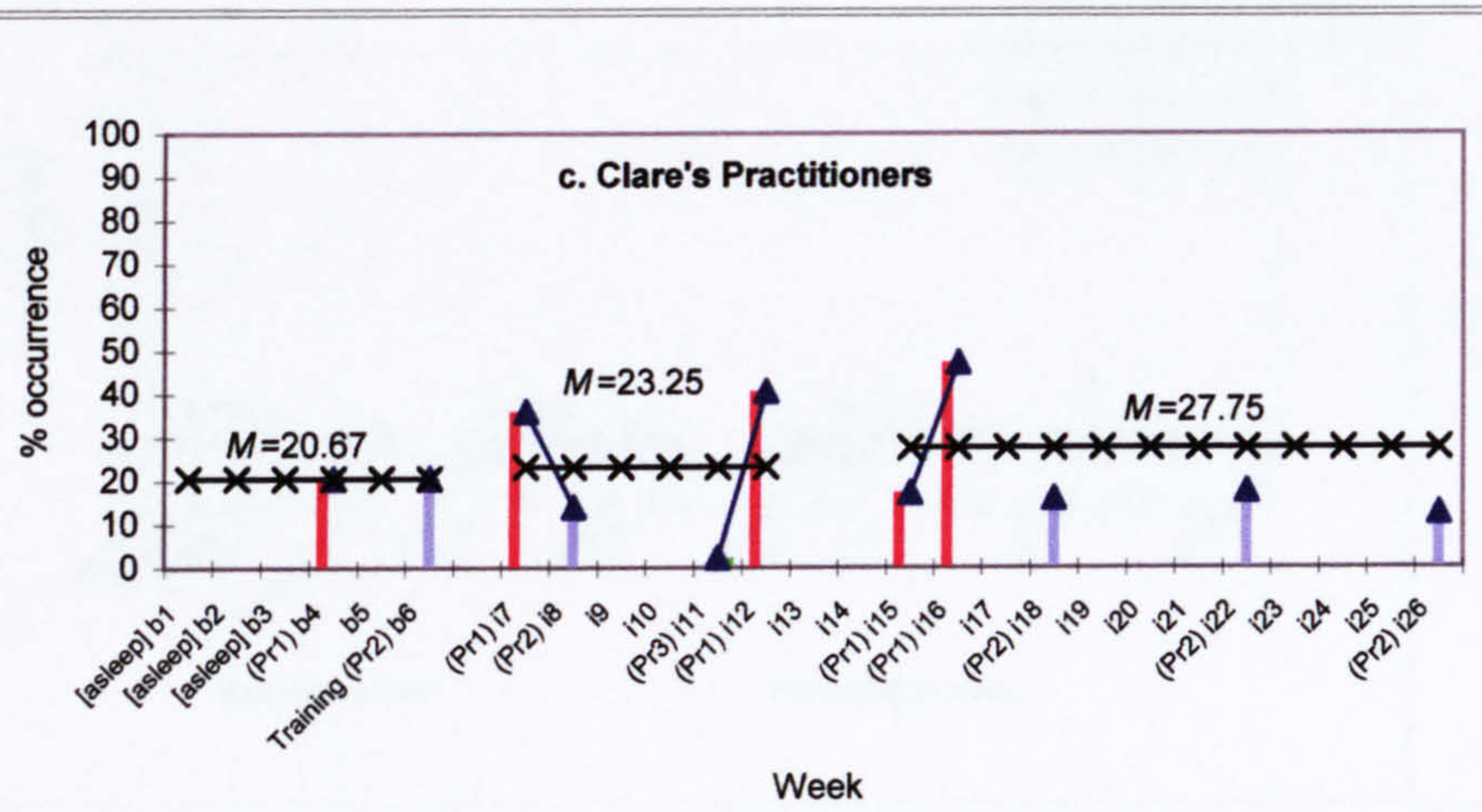
II training was followed by an obvious phase mean level increase compared with the baseline, in 'contingent responding' (Figure 1) by three teams: Diana (+32.36%), Alice (+9.65%), Betty (+9.34%) and a slight phase mean level increase for Clare's team (+2.58%). Positive progress continued across the intervention for all four teams. For Clare's practitioners, with the highest baseline mean, the increase was the least to the final intervention phase. For Diana improvement was the most marked.

No 'forcing/overriding' by Alice's team was observed and only minimal amounts noted for other individual practitioners (Figure 2). II training was followed by a slight phase mean level decrease compared with the baseline, for Betty (-0.58%) and Diana (-0.2%) but no change (from 0.5%) for Clare. The end of the intervention showed slight phase mean level increases compared with the baseline for Betty (+2.21%), Diana (+0.58%) and Clare (+0.1%).

Figure 1. Contingent responding by practitioners







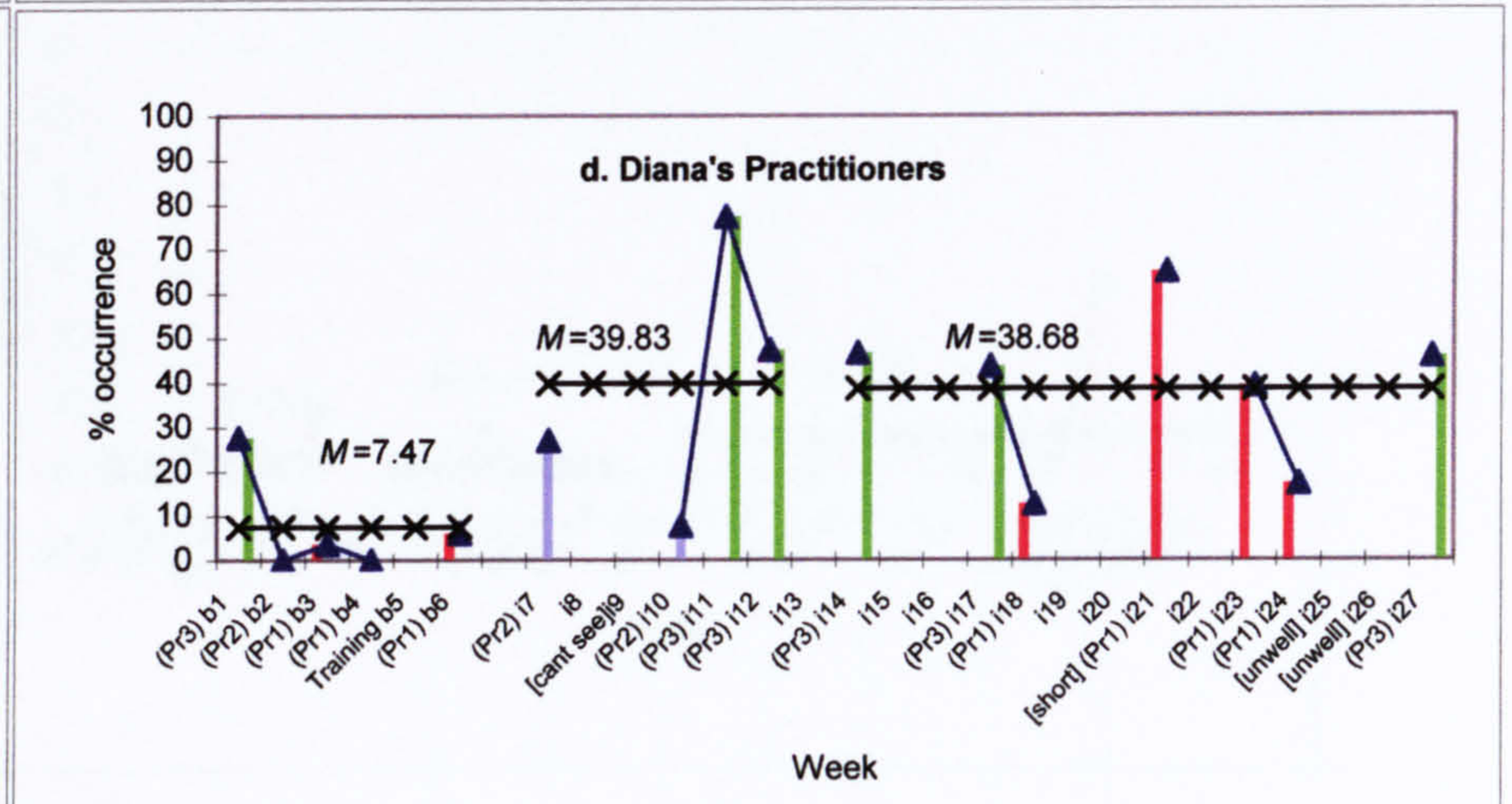
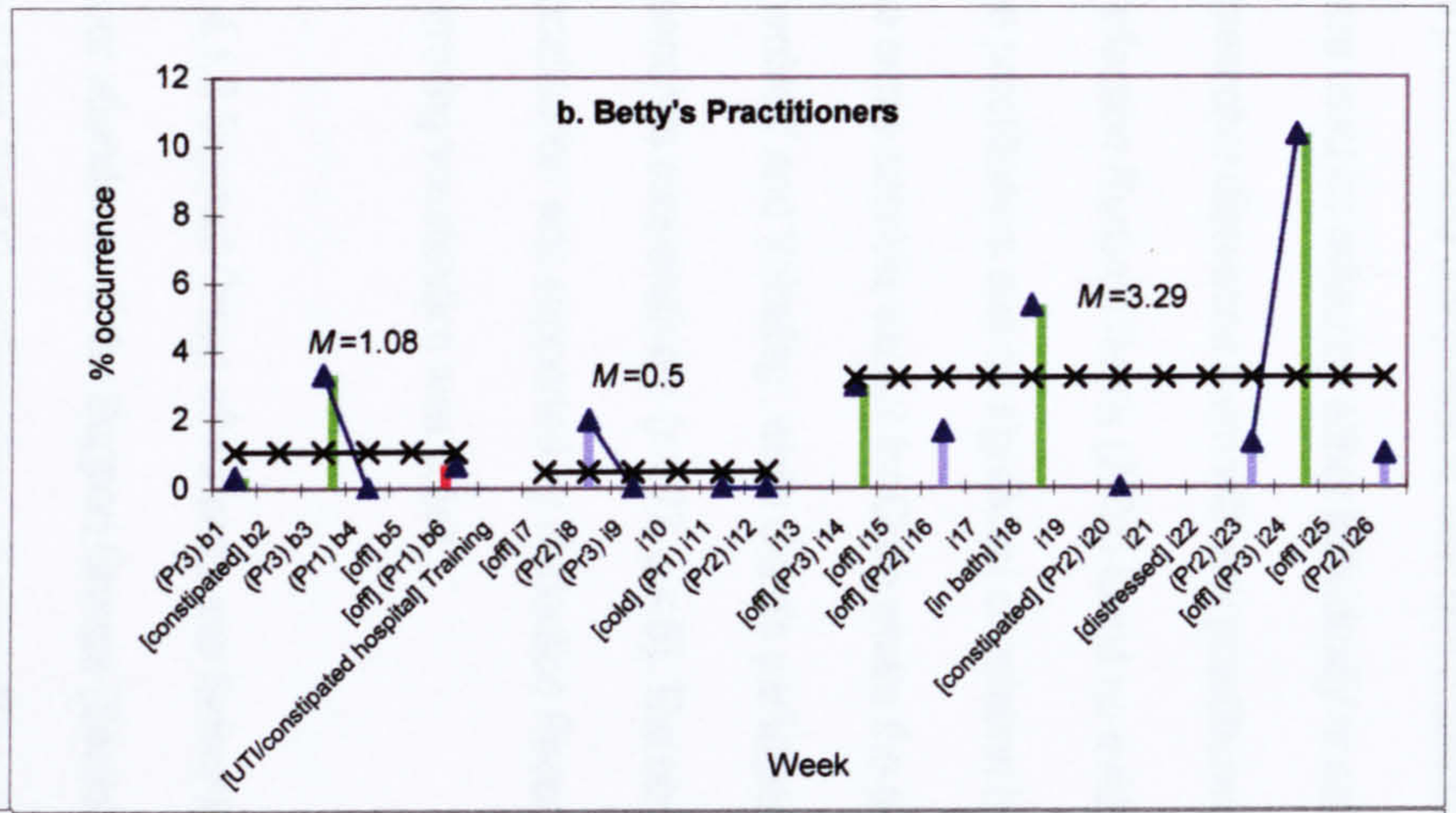
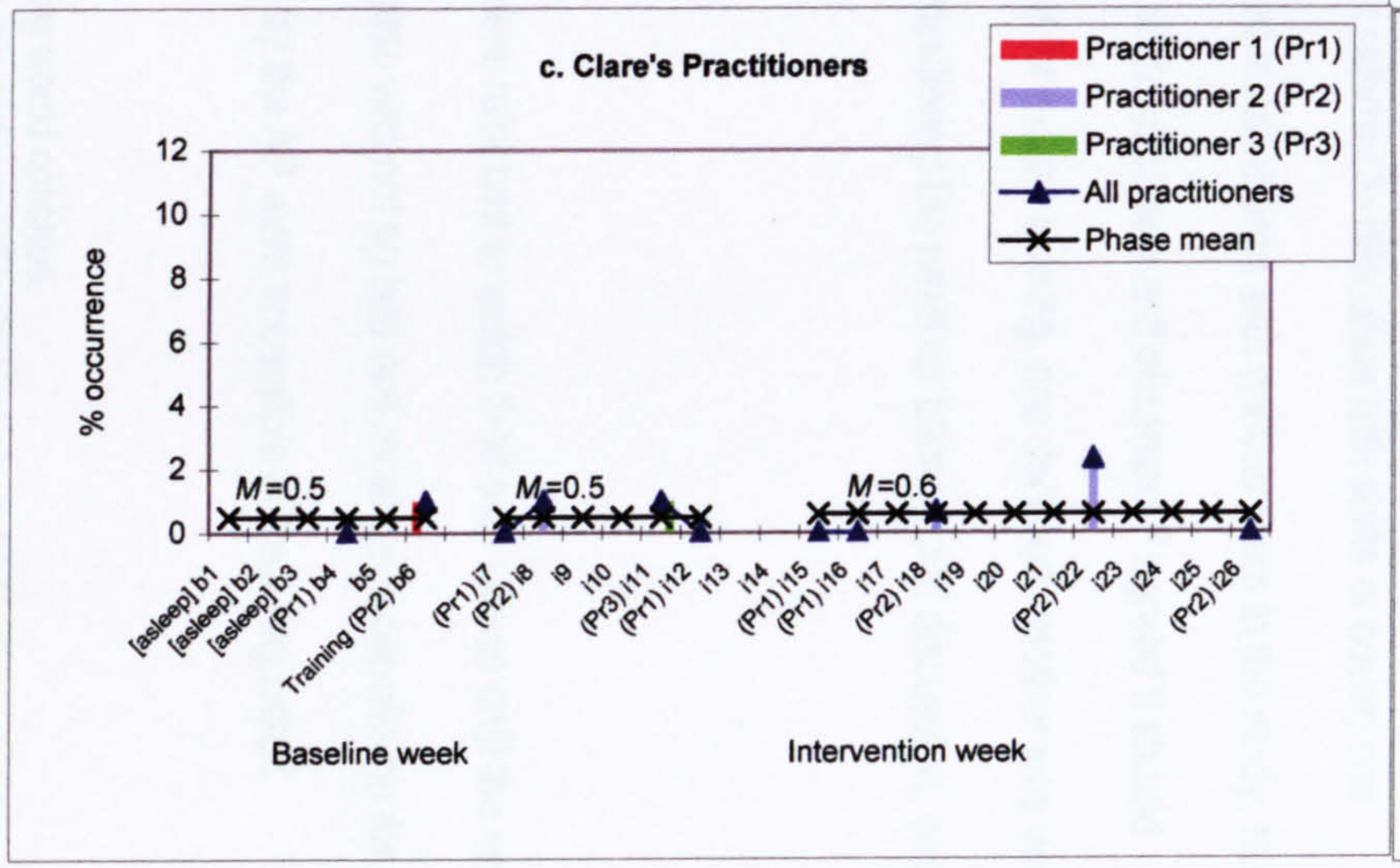


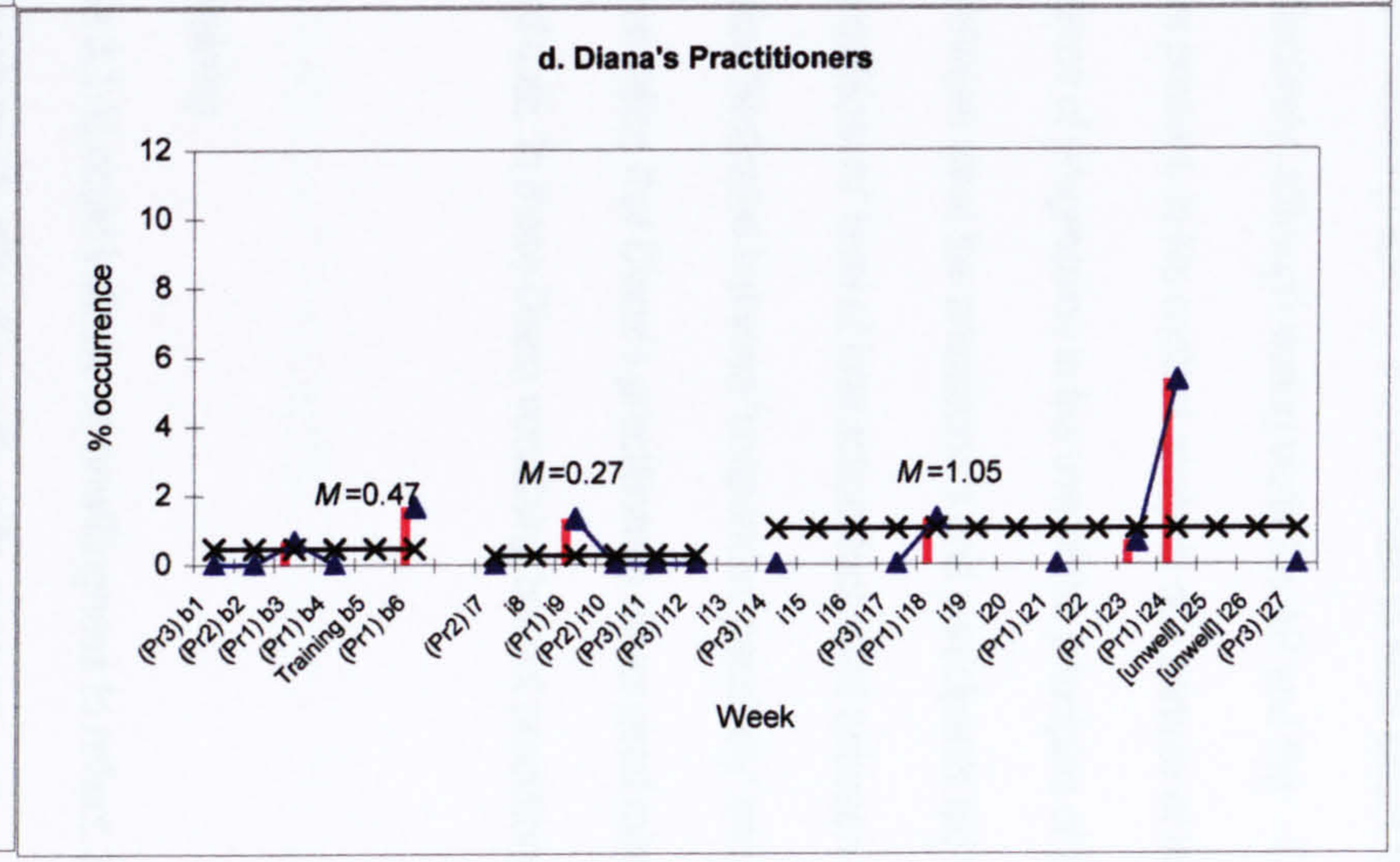
Figure 2. Forcing and overriding by practitioners

a. Alice's Practitioners

no forcing or overriding observed







3.4.1.2 Reflection Records

All practitioners completed at least one *Reflection Record* (Table 7). It is unknown to what extent these were used for reflection either individually or collectively, although during visits the AP and the researcher discussed them with any practitioners present. In his content analysis of a sample of the *Reflection Records* Norris (2003) found no evidence of progression in the use of the principles of II by the practitioners and no significant correlation between what the practitioners and participants did within the same session, except for Clare where the practitioners' level of interaction fluctuated between 'involved' and 'imitating', while Clare's participation fluctuated between 'cooperated passively' and 'responds cooperatively' (r =.72, p <.5). The observation that Diana's practitioners never used mirroring vocalisation was supported by *Reflection Record* data. In these Diana vocalising but not practitioners' mirroring vocalisation was noted.

3.4.1.3 Support Group attendance and further training

Poor attendance at the Support Groups (Section 3.1.1) could indicate an unwillingness to reflect. In the final two *Staff Questionnaires*, nine practitioners referred to difficulties with shifts or cover; one mentioned the need to take turns; one suggested informal links with another team in the study. None indicated the groups were unnecessary. At i26 all practitioners and observers[12] agreed II should continue[13]. Eight practitioners mentioned a need for further training, one declined, another was unsure and two made no comment. Seven observers mentioned the need for training and discussion, one declined and three gave no comment.

3.4.1.4 Video feedback use

Despite being offered, individual practitioners were reluctant to watch their own videos until the end of the study. Some then commented that the process was not so bad and most gave permission for colleagues to view them too. The videos made by the AP were accessible but not requested.

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[12] Two observers initially disagreed, assuming filming would continue.
[13] One practitioner did not want to continue, feeling too under scrutiny, but acknowledged others should.

3.4.1.5 Anecdotes

After the study, one of Diana's observers said, "the structure has prompted staff to notice more and reflect". Alice's HSTL in the Trust Annual Report 2001-2002 (p.14) described her team as 'wonderful in grasping the ideas of II and having worked really hard to make this a success for Alice'.

3.4.1.6 Summary

There is some evidence across the multiple-baseline of a functional link between the use of *some* II principles by practitioners and training, with improvement continuing through the intervention phase. There were individual practitioner differences, and evidence of post-session reflection was limited.

3.4.2 Hypothesis Two: II facilitated by novice practitioners will have a positive impact on the abilities of people with PLD

Evidence about this hypothesis comes from seven sources:

- videos (in session);
- videos ('alone');
- PVCS;
- *Staff Questionnaires* (quantitative);
- *Staff Questionnaires* (qualitative);
- *Reflection Records;* and
- anecdotes.

3.4.2.1. Videos (in session)

Changes in participant behaviour are presented as follows: 'looking at face' (Figure 3), 'engagement' (Figure 4), 'joint focus' (Figure 5) and 'initiating social/physical contact' (Figure 6).

Figure 3. Looking at face

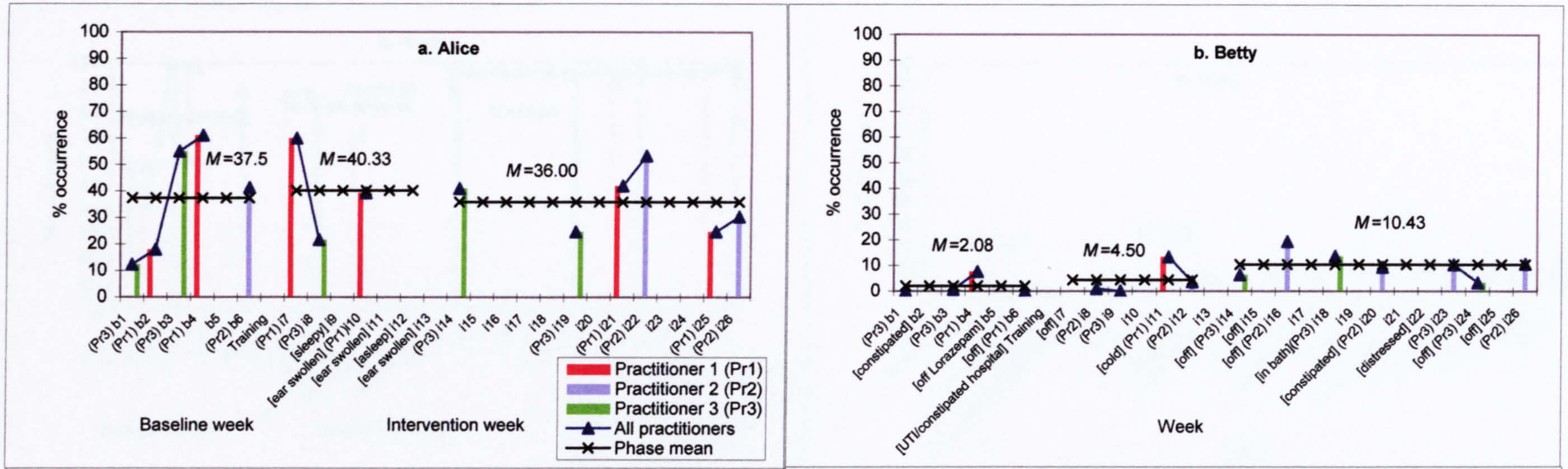
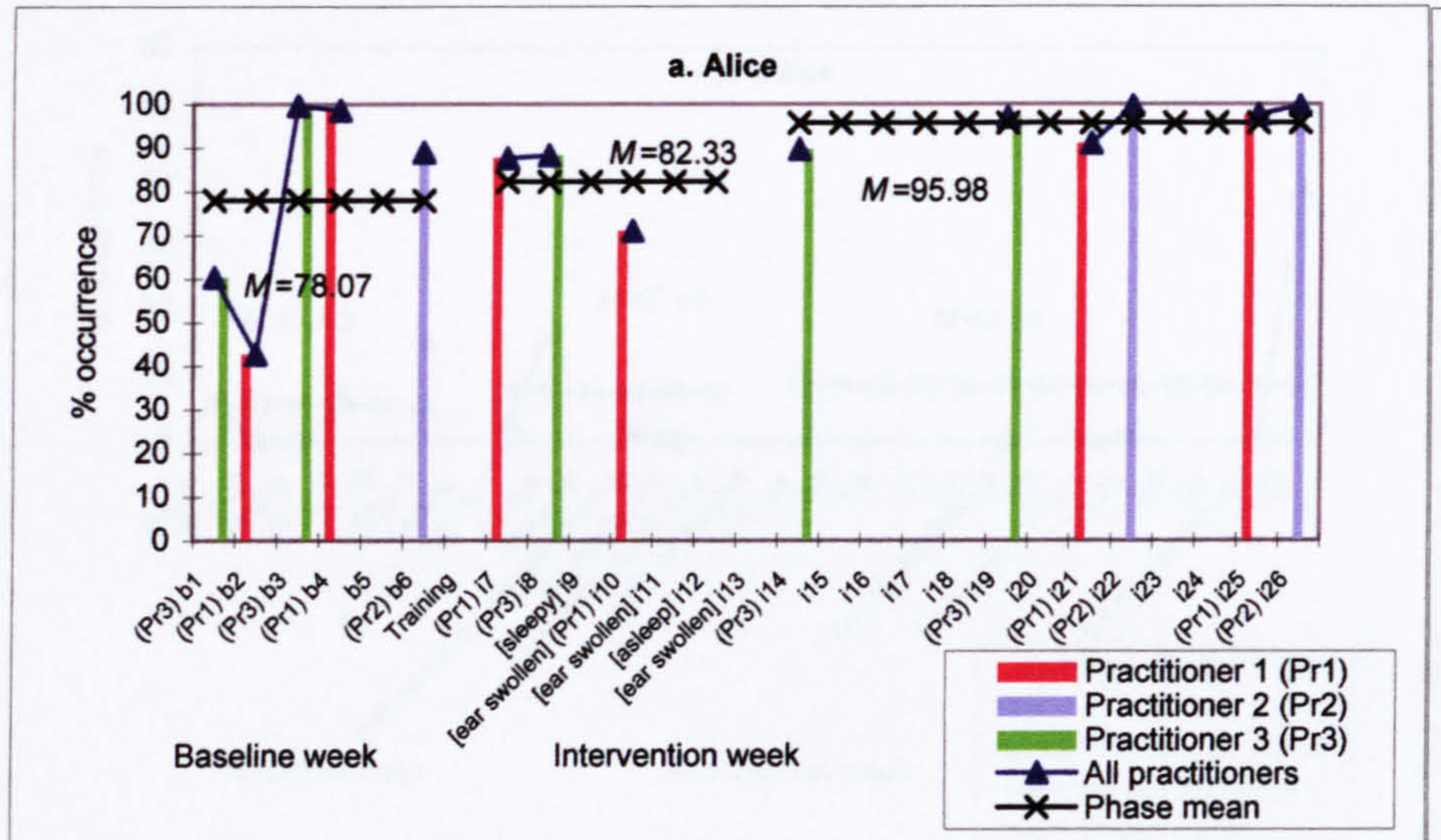
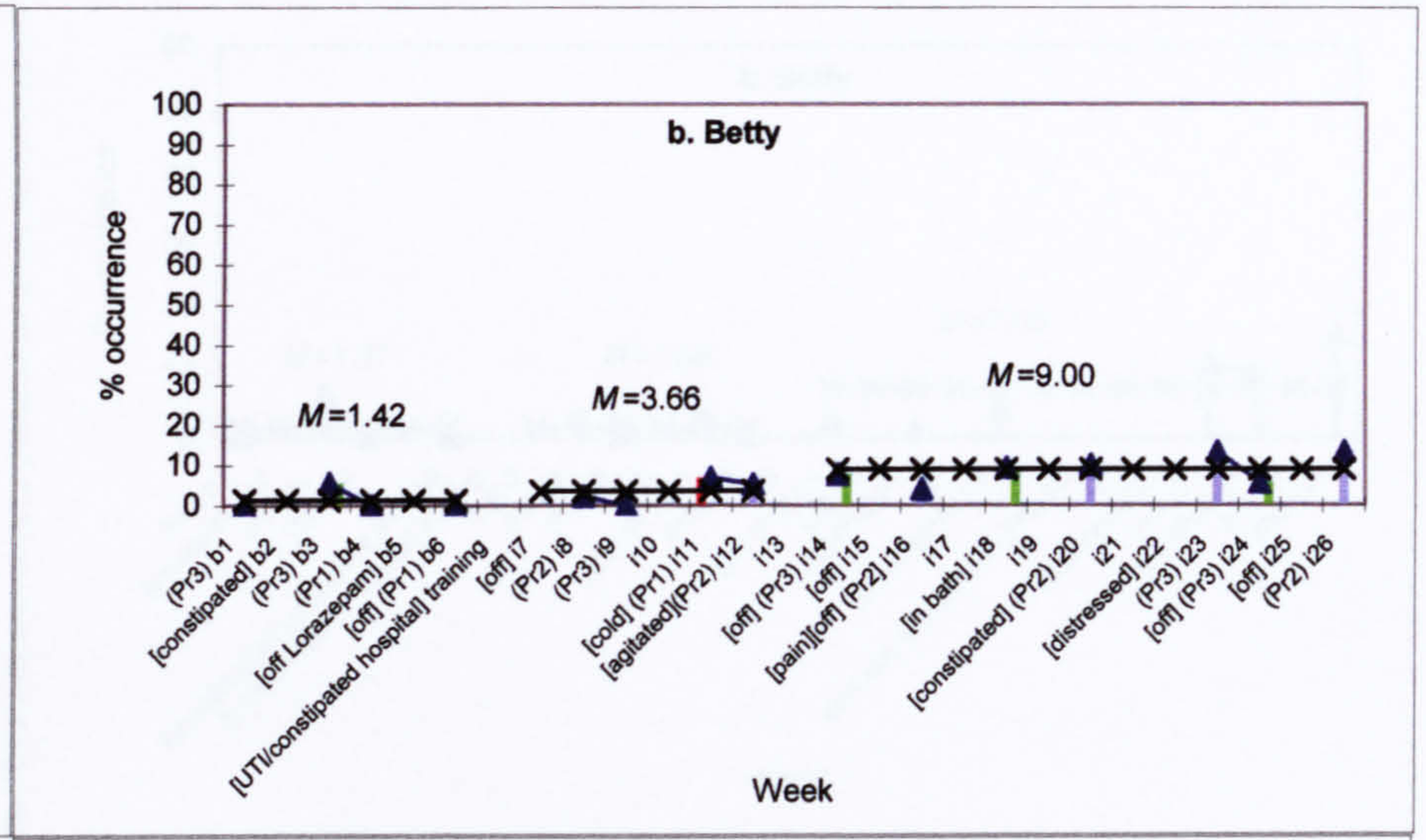
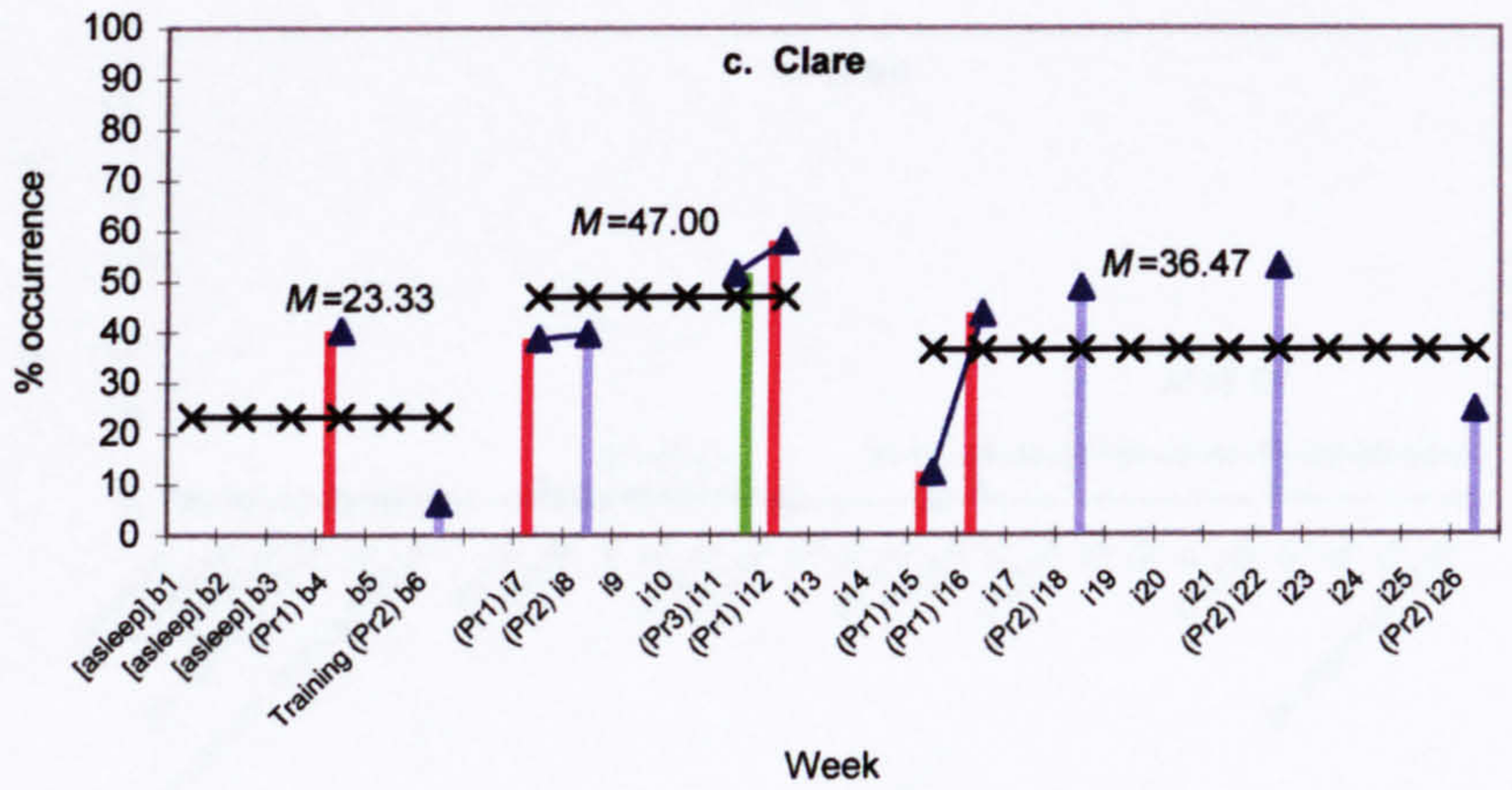


Figure 4. Engagement







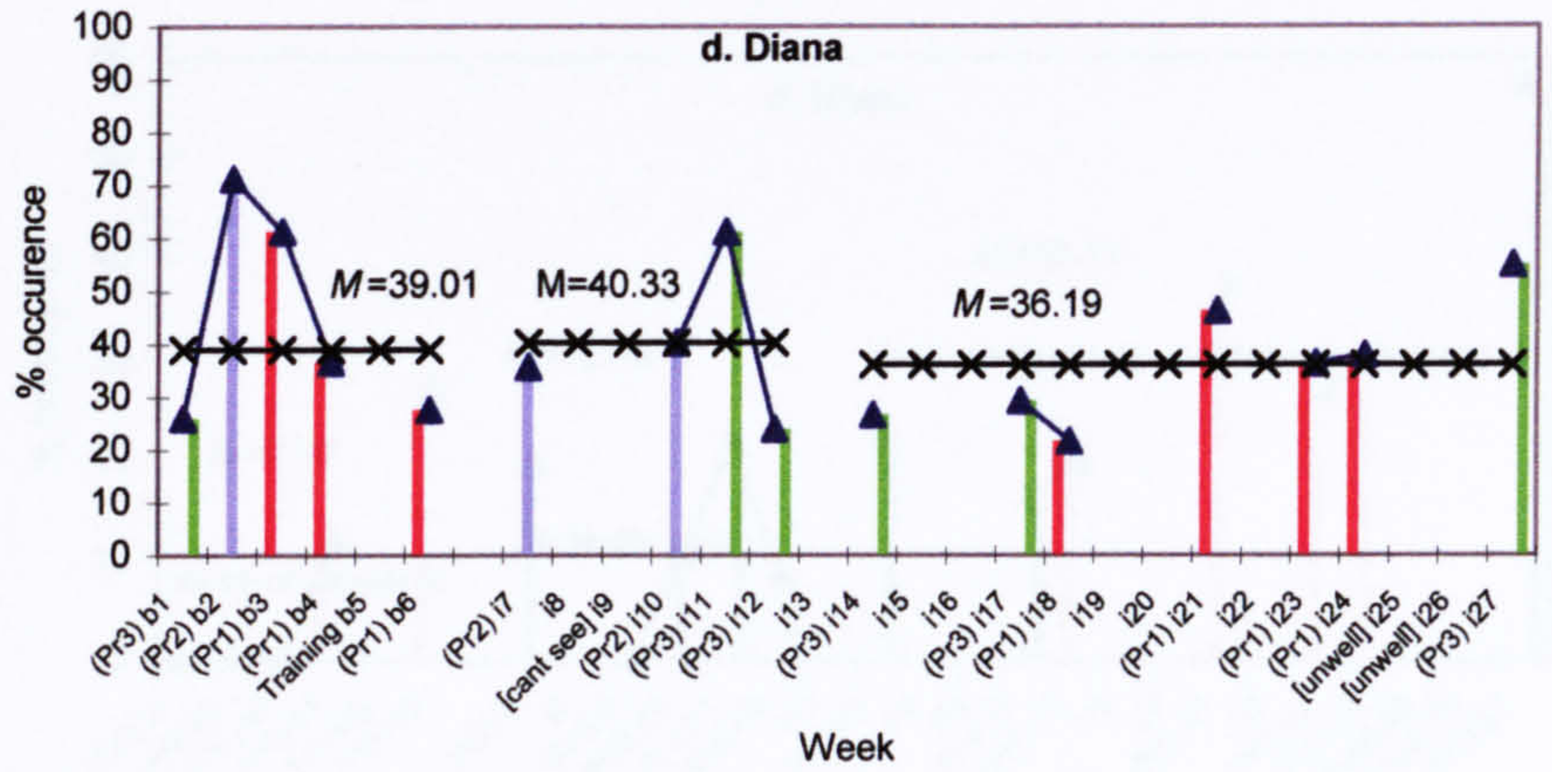


Figure 5. Joint focus

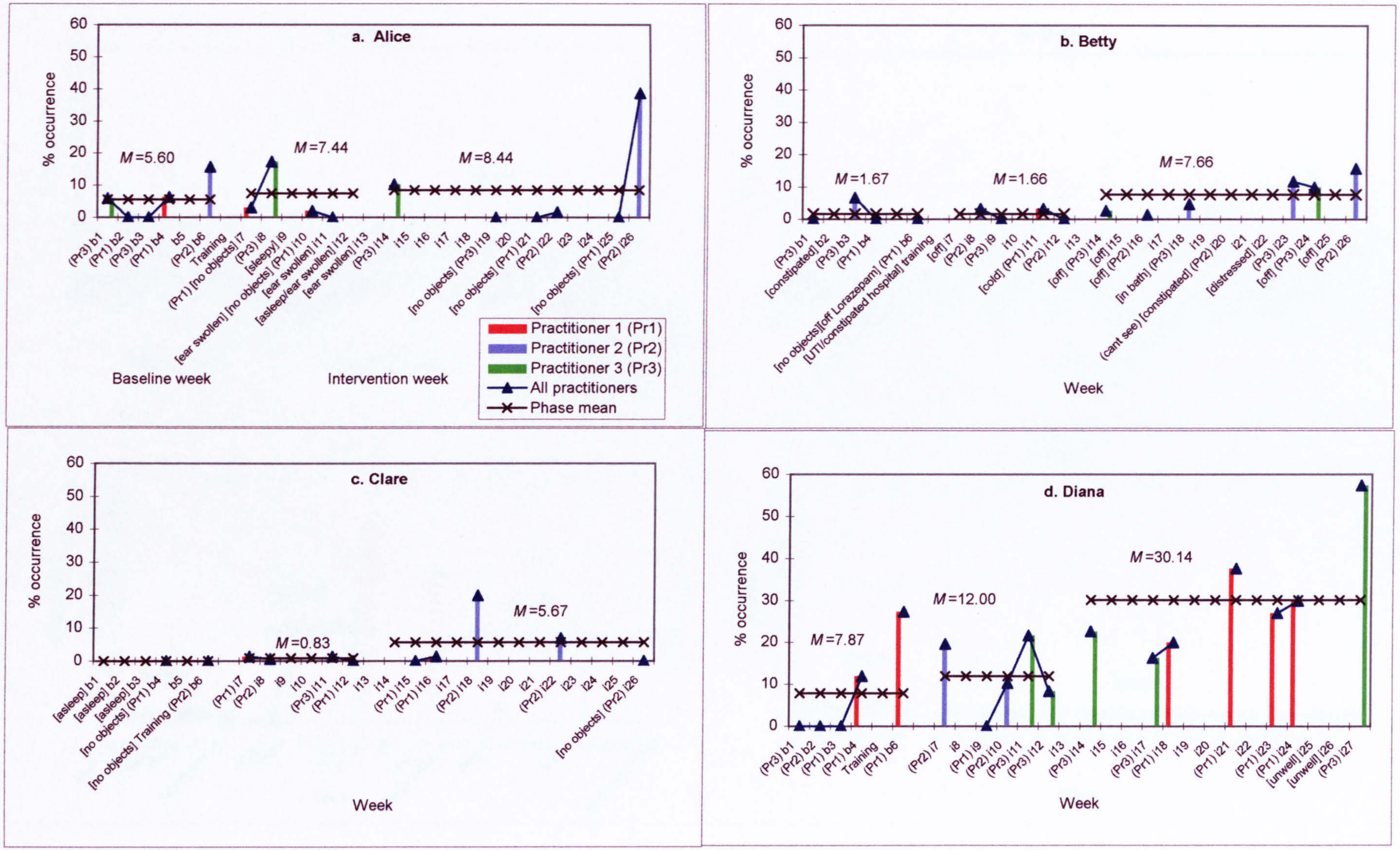
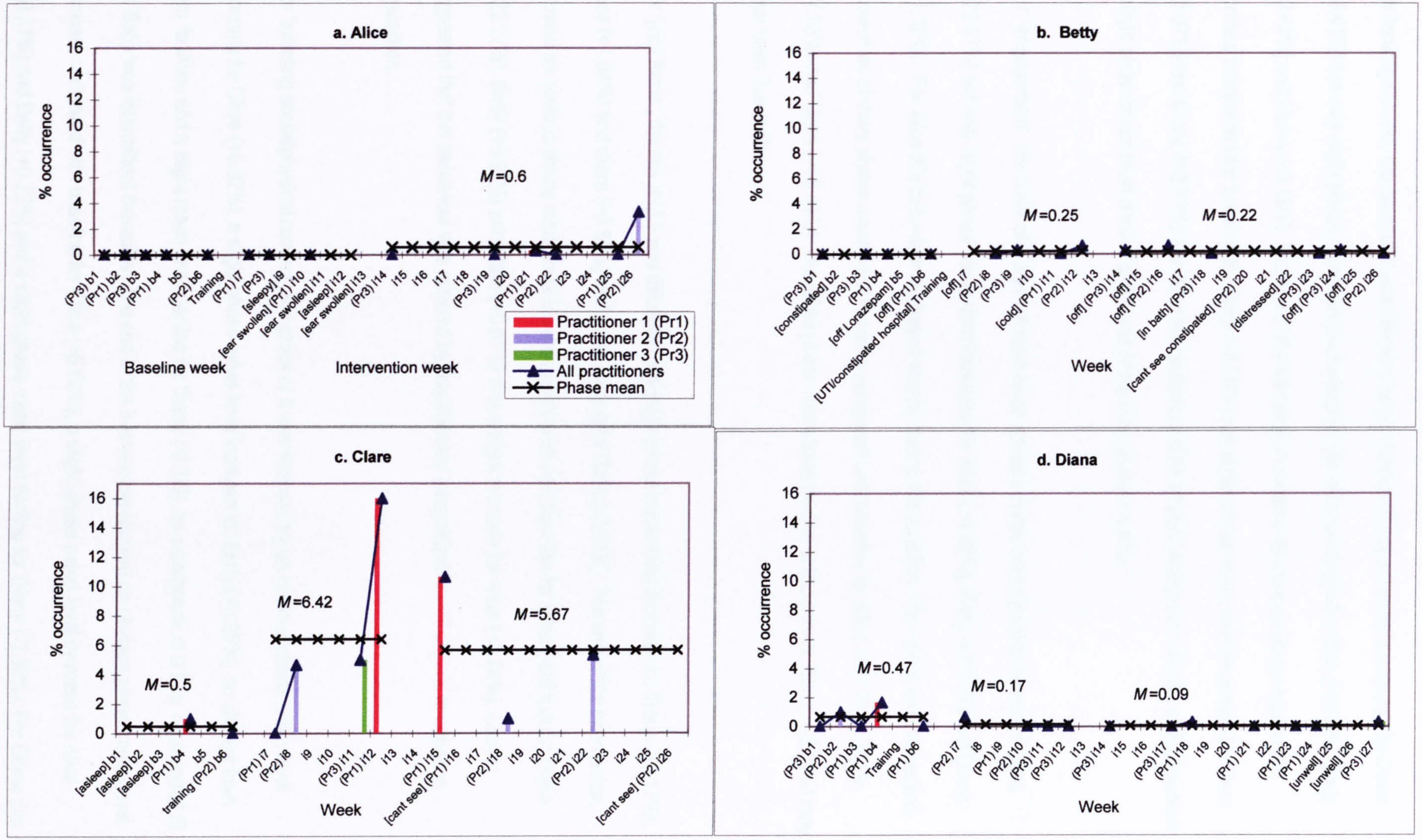


Figure 6. Initiating social/physical contact



For 'looking at face', the onset of II was followed by an obvious phase mean level increase for Clare (+6.41%) but only slight phase mean level increases for the other participants: Alice (+2.83%), Betty (+2.42%) and Diana (+2.18%). The end of the intervention showed an obvious phase mean level increase compared with baseline for Betty (+8.35%) and slight phase mean level increases for Clare (+3.07%) and Diana (+2.79%). For Alice this behaviour rose sharply during the baseline and presented a slight phase mean level decline at the end of the intervention (-1.5%).

For 'engagement', the onset of II was followed by an obvious phase mean level increase for Clare (+23.67%) but only slight phase mean level increases for Alice (+4.26%), Betty (+2.24%) and Diana (+1.32%). For Alice this behaviour increased sharply during the baseline. The end of the intervention showed an obvious phase mean level increase compared with baseline for Alice (+17.71%), Betty (+7.58%) and Clare (+13.14%). The slight phase mean level decline at the end for Diana (-2.82%) may have been due to illness.

For 'joint focus', the onset of II was followed by a slight phase mean level increase for Diana (+4.13%), Alice (+1.84%) and Clare (+0.83%) and a tiny decline for Betty (-0.01%). The end of the intervention showed an obvious phase mean level increase compared with baseline for three participants: Diana (+22.27%), Betty (+5.99%) and Clare (+5.67%) and a slight increase for Alice (+2.78%). Coders suggested that this behaviour was affected by practitioners' intermittent use of objects to enhance interaction.

For 'initiating social/physical contact', the onset of II was followed by an obvious phase mean level increase for Clare (+5.92%), a slight phase mean level increase for Betty (+0.25%), no change from zero for Alice and a slight mean level decline for Diana (-0.3%). Its emergence at i21 for Alice and at i9 for Betty was intermittent thereafter. The end of the intervention showed an obvious phase mean level increase compared with baseline for Clare (+5.62%), a slight phase mean level increase for Alice (+0.61%) and Betty (+0.22%) and a slight phase mean level decline for Diana (-2.82%). For Diana this

behaviour was intermittent throughout including the baseline. Coders suggested that how close the practitioners sat to the participant affected this behaviour.

3.4.2.2 .Videos ('alone')

In the videos taken with the participant 'alone', none of the in-session behaviours were observed; consequently the only behaviour rated in this condition was 'visual scanning' (Figure 7).

Following the onset of II, 'visual scanning' showed an obvious phase mean level increase for all participants: Clare (+39.56%), Betty (+21.67%), Alice (+17.73%) and Diana (+14.93%). The end of the intervention also showed an obvious phase mean level increase compared with baseline for all participants: Clare (+60.44%), Alice (+34.74%), Diana (+18.43%) and Betty (+8.76%).

3.4.2.3 PVCS

The PVCS (Short form) results[14] (Table 11) indicated that the only category with score improvements during the intervention compared with the baseline for all participants was 'positive interaction' with improvements noted by i12 for Alice and Diana. The end of the intervention also showed improvement for Clare in 'attention seeking', 'simple negation' and 'understanding of non-vocal communication'. For Diana it was also noted in 'vocal imitation' with improvement by i12. All other categories scores either stayed the same or varied inconsistently.

[14] Scoring: yes, 3/3, 2/3 or usually=1; rarely or 1/3=0.5; no, never or 0/3=0

Figure 7. Visual scanning 'alone'

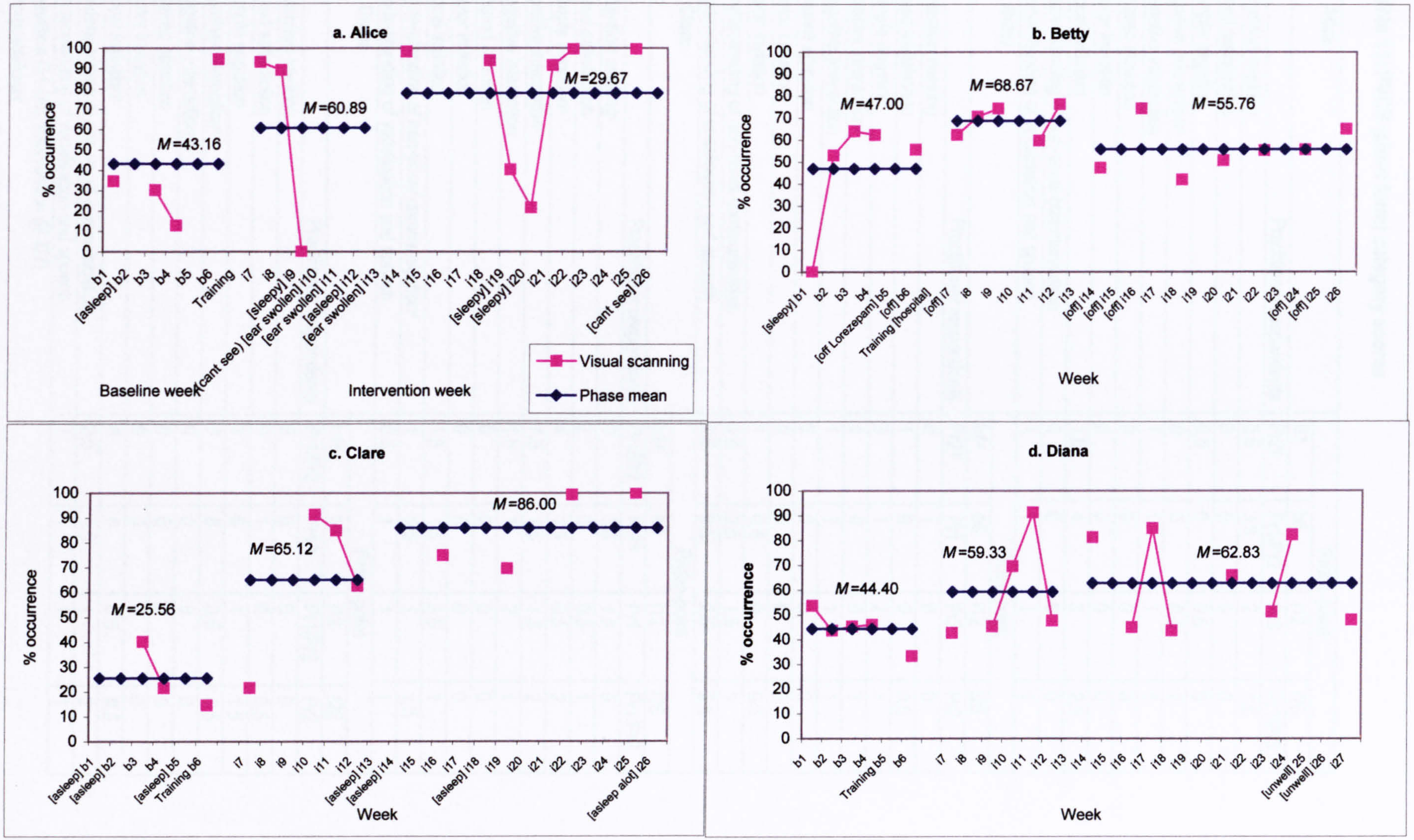


Table 11: PVCS (short form) category scores

a. Alice	Probe-point			
	B1	b6	i12	i26
Practitioner respondents	Pr2[b]	Pr1/Pr2	Pr3	Pr1/Pr3
Attention seeking	2.5	3.5	2	1.5
Need satisfaction	0	0	0	0
Simple negation	0.5	0	0.5	0
Positive interaction[c]	*0*	*0*	*0.5*	*1*
Negative interaction	1	1	1	1
Shared attention	0	0	0	0
Motor imitation	0	0	0	0
Vocal imitation	1.5	4	3	2.5
Understanding of non-vocal communication	0	0	0	0
Understanding of vocalisation and speech	1	1	1	1
b. Betty	Probe-point			
	b1[a]	b6	i12	i26
Practitioner respondents	Pr2[b]	Pr1	Pr2	Pr2
Attention seeking	0	1	0	0
Need satisfaction	1	0	0	0.5
Simple negation	3	1	2	1
Positive interaction[c]	*0*	*0*	*0*	*1*
Negative interaction	1	1	1	1
Shared attention	0	0	0	0
Motor imitation	0	0	0	0
Vocal imitation	1	0.5	0	0.5
Understanding of non-vocal communication	4.5	2.5	1.5	1
Understanding of vocalisation and speech	2.5	0.5	2.5	2.5
c. Clare	Probe-point			
	b1[a]	b6	i12	i26
Practitioner respondents	Pr1/Pr2	Pr2[b]	Pr1	Pr1/Pr2
Attention seeking[c]	*3*	*3.5*	*1.5*	*5*
Need satisfaction	2	0	0.5	1
Simple negation[c]	*0*	*1.5*	*0.5*	*2*
Positive interaction[c]	*1.5*	*1.5*	*1.5*	*2*
Negative interaction	1.5	1	2	1
Shared attention	0	0	0	0
Motor imitation	0	0	0	0
Vocal imitation	1.5	1.5	2.5	1
Understanding of non-vocal communication[c]	*1*	*0.5*	*1*	*1.5*
Understanding of vocalisation and speech	0.5	1	1	1
d. Diana	Probe-point			
	b1[a]	b6	i12	I26
Practitioner respondents	Pr1/Pr2	Pr1[b]	Pr1/Pr2	Pr2
Attention seeking	0	0	0	0
Need satisfaction	0	1	0	0.5
Simple negation	2	0	1	1.5
Positive interaction[c]	*0*	*0*	*0.5*	*0.5*
Negative interaction	0	0	0	0
Shared attention	0	0	0	0
Motor imitation	0	0	0	0
Vocal imitation[c]	*0*	*0*	*0.5*	*0.5*
Understanding of non-vocal communication	2.5	1.5	1	2
Understanding of vocalisation and speech	1	1	1	1

[a]baseline (b1-b6), intervention (i7-i27)

[b]Pr=practitioner

[c]categories where there was improvement compared with the baseline.

3.4.2.4 Staff Questionnaire (Quantitative)

The onset of II was followed by an improvement in *Interactive Sequence* scores (mode and/or range) (Table 12) by i12 for Betty and Clare as rated by practitioners and for Diana as rated by observers. Improvement in scores was noted at i26 for all four participants both by practitioners and observers.

The onset of II was followed by improvement in *Physical Sociability Scale* scores (mode and/or range) (Table 13) by i12 for Betty and Diana as rated by practitioners, and for Clare and Diana as rated by observers. By i26, improvement in scores was noted for Alice and Betty by practitioners and for Betty, Clare and Diana by observers.

Table 12: Interactive Sequence

		Practitioners				Observers			
		Baseline		Intervention		Baseline		Intervention	
		b1	b6	i12	i26	b1	b6	i12	i26
Alice	Mode	4	3	3	4	4	3	3	4
	Range	4	3-4	3-4	***4-5***	4	3-4	3	***3-6***
Betty	Mode	-	-	-	**6**	2	2	2	-
	Range	1-4	1-4	***2-6***	***5-6***	2	2	2	***2-5***
Clare	Mode	4	-	**6**	-	4	-	-	-
	Range	4	4	**6**	**4-5**	4	4-5	-	***4-6***
Diana	Mode	4	4	4	-	3	3	***4***	***4***
	Range	2-4	2-4	2-4	***3-5****	3-4	3-4	2-4	3-4*

Bold italics indicates improvement compared with baseline

Key: Category	Scale score
Resists	1
Tolerates	2
Co-operates passively	3
Enjoys	4
Responds co-operatively	5
Leads	6
Imitates	7
Imitates independently	8

Baseline (b1-b6), Intervention (i7-i26)
*unwell at this time.

Table 13: Physical Sociability Scale

		Practitioners				Observers			
		Baseline		Intervention		Baseline		Intervention	
		b1	b6	i12	i26	b1	b6	i12	i26
Alice	Mode	7	3	3	**8**	-	-	-	3
	Range	4-7	3-7	3-7	**7-8**	4-7	4-7	4-7	3-6
Betty	Mode	-	2	-	-	-	3	3	3
	Range	2-8	2-8	***3-8***	***4-8***	2-8	2-3	-	**3-7**
Clare	Mode	8	-	8	-	-	-	8	-
	Range	5-8	5-8	5-8	5-8	3-7	5-7	***8***	***6-8***
Diana	Mode	-	-	**7**	5*	3	-	-	3*
	Range	4-7	2-5	2-7	4-5*	2-3	2-4	**3-4**	**3-4***

Key : Category	Score
Actively resists being held (e.g. stiffens, thrashes, pushes away)	1
Resists being held *most* but *not all* of the time	2
Does not resist being held but *does not participate* either (lies passively)	3
Will *eventually* relax and mould into being held, but only after a lot of encouragement	4
Will *usually* relax and mould when *first* held	5
Always relaxes and moulds when *first* held	6
Relaxes moulds and *actively turns head towards* interactive partner	7
All the above plus initiates physical contact such as clinging or grasping	8

Baseline (b1-b6), Intervention (i7-i26) *unwell at this time

3.4.2.5 Staff Questionnaire (qualitative)

The category labels for expectations about II for the participant are given in Table 14. Across time the highest ranked category out of ten was *increase in participant skill* for both practitioners and observers.

Table 14. Expectations about Intensive Interaction for the participant across the whole study. (beforehand, b1, b6, i12 and i26)

	Practitioners	Observers	Total
Missing questionnaires	*4/60*	*5/60*	*9/120*
Categories			
No comment	3	11 [2][a]	14
Unsure	5	8	13
External variables	2	2	2
No change (since last questionnaire)	5	5	5
Success	11 [2]	4	15
Enjoyment by the participant	10	9	19 [2]
Staff behaviour	10	6	16
Increase in participant skill	13 [1]	17 [1]	30 [1]
Reciprocal relationship building	5	0	5
Continue/maintain progress	7	9	16

[a][rank]

The categories were also ranked in terms of number of responses for each data-point. Before the study the category *increase in participant skill* was ranked first both by practitioners[15] ('to try to get Alice to develop more verbal skills and to copy more sounds that staff make'; help her form better relationships with people make her respond better to contact. Be able to initiate contact') and by observers ('increase in response and communication skills'; 'increased awareness from Clare').

At b1, practitioners ranked equal first the categories *increase in participant skill* ('to support her in initiating interaction/communication'; 'that she might want to communicate with others more'), *no comment, unsure, enjoyment by the participant, staff behaviour, reciprocal relationship building* and *continue/maintain progress*. At this stage, observers ranked equal first the categories *increase in participant skill* ('hoping for some improvement in communication and interaction skills'; for Betty to be awake for longer...') and *unsure*.

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[15] two example verbatim comments are given in brackets

At b6, practitioners ranked equal first the categories *increase in participant skill* ('hopefully more tolerance of contact'; 'greater initiation by her'), *success* ('good idea'; 'very good') and *enjoyment by the participant* ('that Diana will learn to have fun with others...'; 'I hope Alice enjoys herself...). At the same point observers ranked equal first: *no comment* and *enjoyment by the participant* ('enjoying company'; 'she will enjoy more interaction'), whereas, *increase in participant skill* ranked equal third ('improved communication skills and voluntary interaction'; 'that it will increase her awareness of her surroundings and those around her').

At i12, the practitioners' equal first ranked categories were *staff behaviour* and *success* ('it works'; 'good we need to do more'), whereas the observers equal first ranked categories remained *increase in participant skill* ('improved communication choice making etc.'; 'it appears that Betty is responding to those staff involved with this programme') and *continue/maintain progress* ('needs to be more intensive'; 'wonder what would happen if this continues indefinitely').

At i26, the practitioners' first ranked category was *success* ('brilliant'; it works providing Diana wants to play') whilst *increase in participant skill* was fourth ('Alice has shown some improvement in initiating interaction and a new vocal sound'; 'is responding well even when agitated'). At this stage observers first ranked category was *continue/maintain progress* ('I would hope that II will continue for Betty whether it be formally or informally'; 'to be done on a regular basis by everyone') whilst *increase in participant skill* was equal second ('I am very surprised by with improvement Alice has made'; 'Betty appears to tolerate interaction far more') with *success* ('this is a helpful tool/technique; 'small changes have been noticed').

There is evidence from change in expectations made across time that both practitioners and observers were noticing improvements in the abilities of the participants.

3.4.2.6. Reflection Records

Norris (2003) found in his content analysis of a sample of *Reflection Records* using the *Interactive Sequence*, that Alice's level of interaction fluctuated between 'enjoys' and 'leads' except for i26 where it reached the 'imitates' level. For Betty interaction fluctuated between 'resists' and 'leads', for Clare between 'cooperates passively' and 'responds cooperatively' and for Diana between 'tolerates' and 'responds cooperatively'. Further scrutiny of the *Reflection Records* revealed smiling consistently for Alice, Clare and Diana but none for Betty and eye contact reported throughout for all participants. Alice's practitioners noted a range of new vocalisations and 'initiating social/physical contact' earlier (i10) than on video (i21).

3.4.2.7. Anecdotes

At i7 a practitioner commented that Diana was tolerating longer interaction than predicted. At i17 one member of staff uninvolved with the research commented, "[Clare] has been more alert over the past couple of months than she has ever been before". Also an ex-member of staff who had recently visited the house commented that Clare was "...more lively and alert" than she had been two years previously. At i21 two practitioners agreed Alice's concentration span was longer. They felt she was interacting with increased duration, longer periods of eye contact and "...follows people with her eyes as they walk around the room and even when they leave..." At i22 a physiotherapist visited Clare and commented that she was more responsive and engaged in interactions than previously. At i24 one of the practitioners reported that Betty had reached out and touched the hand of a visitor who had lent their hand on her chair when talking to someone else. All the staff agreed that this was an unusual event as the practitioner said, "Betty seldom tries to initiate interaction and never takes an interest in strangers".

After the end of the study Alice's HSTL described her as "...more of an individual now". In the Trust Annual Report 2001-2002 (p.14) she wrote: '[Alice] has done amazingly well. She has improved eye contact, become more vocal and now expresses herself when she wants someone to play with her (...) She has exceeded all our expectations and this has been a real turning point in her life'.

At the same point, Betty's team thought that two contemporaneous interventions (aromatherapy and music therapy) had also contributed to the perceived success. Although Clare was still described as sleeping a lot, her HSTL thought she was more alert when awake. A member of staff returning from a long absence and unfamiliar with the study had noticed that Clare was quieter and happier but did not know why. One of Diana's practitioners said, "Having the structure was hard to get used to at first (...) it made you more aware of the reactions you get (...) she does answer when you talk (...) she is more cuddlier".

3.4.2.8 Summary

There is some evidence, from direct observation, respondent questionnaire data and anecdote, of a functional link between the onset of II and progress across the multiple-baseline with improvement continuing through the intervention phase. However this finding was confounded by evidence of improvement, on some behaviour codes, within the baseline for one participant.

3.4.3 Hypothesis Three: II with novice practitioners will have a positive impact on the quality of their relationship with people with PLD as perceived by staff

Evidence about this hypothesis comes from three sources:

- *Staff Questionnaires* (qualitative);
- *Reflection Records;* and
- anecdotes.

3.4.3.1. Staff Questionnaires (qualitative)

Changes in expectations about II for the staff team were explored. The category labels are given in Table 15. Across time the category *team cohesion* was ranked first by practitioners and *benefits for staff (in general)* was ranked first by observers. *Staff awareness of participant's needs* was ranked second by both.

Table 15: Expectations for the staff team across the whole study (beforehand, b1, b6, i12, and i26)

	Practitioners	Observers	Total
Missing questionnaire	4/60	5/60	9/120

Categories			
No comment	6	8	14
Unsure	5	1	6
No change (since last questionnaire)	5	7	12
Doubtful about change possible	5	0	5
Optimism	7	9	16
Team cohesion	10 [1][a]	7	17 [2=]
Benefits for staff (in general)	5	12 [1]	17 [2=]
Staff awareness of participant's needs	9 [2]	10 [2]	19 [1]
Realising benefits for the participant	3	3	6
Reciprocal relationship building (with participant)	3	3	6
Resources	4	2	6
Continue/maintain progress	2	4	6

[a][rank]

A category called *reciprocal relationship building (with participant)* fitted only 3/58 practitioner comments and 3/58 observer comments across time. These comments were as follows:

- beforehand (practitioners): 'Help our relationships with Diana', 'hopefully it will bring clients and staff together';
- beforehand (observers): 'Improved...relationship with Diana';
- at b1: no such comments;
- at b6 (practitioners): 'get to know Clare more';
- at b6 (observers): 'to improve their relationship with both [Diana's co-tenant] and Diana as they become more responsive';
- at i12 (observers): 'develop a more interactive relationship with Diana'; and
- at i26: No such comments.

Concerning changes in expectations about II for the participants, across time, practitioners made 5/68 comments that fitted a category called *reciprocal relationship building,* whereas, the observers made no such comments. Comments by practitioners were as follows:

- beforehand: 'help us to understand each other better', 'help us to have a better understanding of each other';

- at b1: 'help us to understand and communicate with each other better', 'building on my already established relationship';
- at b6: no such comments;
- at i12: no such comments; and
- at i26: 'we have learned to read each other'.

At i12 an observer noted, "It appears that Clare is responding to those staff involved with this programme. Staff have reported to me just how responsive Clare is and how beneficial it has been". Also another observer noted at i26, "There has been a good response [by Diana] to other team members".

3.4.3.2 Reflection Records

In his content analysis of a sample of records Norris (2003) generally rated the experience of II as 'positive' for both participants and practitioners. Clare had no sampled sessions rated 'neutral' or 'negative' and Alice had only 1/46 (2.1%) session rated as 'neutral'. Betty had 8/34 (23.5%) sessions for her and 2/34 (5.9%) for the practitioner rated as 'neutral' and 3/34 (8.8%) 'negative' for the practitioner. Diana had 4/28 (14.3%) sessions rated as 'neutral' for her and 1/28 (3.6%) 'negative' for the practitioner.

3.4.3.3 Anecdotes

At i21 it was reported that on two occasions Betty sought interaction with a practitioner "moving herself through two rooms, climbing on to the seat next to [her] and giving her eye contact". Previously Betty usually sat on sofas alone "moving off them if anyone sits next to her..." She had never sought out physical proximity to anyone in the time that the practitioner had known her.

After the end of the intervention the HSTLs for Alice, Betty and Clare all commented that the practitioners needed to share their new knowledge about their relationship with the participants with the rest of the team. For Diana it appeared that they had already discussed this.

3.4.3.4 Summary

There is some evidence that II has a noticeably positive impact on the quality of relationship between people with PLD and their practitioners as perceived by both practitioners and observers.

4.0 DISCUSSION

The research aim of this exploratory study was to evaluate the impact of II, facilitated by novice practitioner home-support staff on the abilities of adults with PLD and on the quality of their relationship. Three hypotheses have been explored. Here the main findings are summarised, methodological considerations and the theoretical context discussed and implications for clinical practice and further research presented.

4.1 Summary of findings

4.1.1 Hypothesis One: Home-support staff as novice practitioners can learn to use the principles of II

Training was followed by a noticeable phase mean level increase in 'contingent responding' for three practitioner teams across the multiple-baseline, and a slight phase mean level increase for the fourth (Clare's) whose phase mean level was considerably higher than the other participants at baseline. All four teams showed a noticeable phase mean level increase by the end of the intervention compared with baseline. 'Forcing/overriding' was minimal throughout and practitioner specific. Mirroring movements began during the early intervention for three participants having occurred in the baseline for one (Diana). Mirroring vocalisation began during the intervention for three participants (Alice, Betty and Clare) only. Qualitative results from the *Reflection Records* indicated use of some principles of II by practitioners. However, post-session reflection appeared to dwindle, videos were little used for feedback and Support Group attendance was poor.

There is tentative evidence of a functional link between II training and practitioner behaviour. It appears that home-support staff, as novice practitioners, can learn to use some of the principles of II.

4.1.2 Hypothesis Two: II with novice practitioners will have a positive impact on the communication and social abilities of people with PLD

Despite variable practitioner skill and participant indisposition, the onset of II was followed by a noticeable phase mean level increase in 'visual scanning' for all participants across the multiple-baseline with improvement continuing to the end of the intervention. This is as predicted, as 'visual scanning' is an earlier behaviour in the developmental sequence. For the behaviours considered to emerge next in the developmental sequence the onset of II was followed by a noticeable phase mean level increase in 'looking at face' and 'engagement' for one participant (Clare) and a slight phase mean level increase in both for three (Alice, Betty and Diana). By the end of the intervention for 'looking at face' there was a noticeable phase mean level increase compared with the baseline for one participant (Betty) and slight phase mean level increases for two (Clare and Diana) and for 'engagement' there was a noticeable phase mean level increase compared with the baseline for three (Alice, Betty and Clare). For Alice there was a steep rise during the baseline for 'looking at face' and 'engagement', perhaps indicating that spending dedicated time with her was itself an intervention.

For the behaviours considered to emerge later in the developmental sequence: for 'joint focus' there were only slight phase mean level increases at the onset of II compared with the baseline for three participants (Alice, Clare and Diana) but by the end of the intervention there was a noticeable phase mean level increase compared with the baseline for three (Betty, Clare and Diana) and a slight increase for one (Alice); whereas, for 'initiating social/physical contact', there was a noticeable phase mean level increase at the onset if II compared with the baseline for one participant (Clare) who also showed early increases in the other behaviours (see above), minimal increase for one participant (Betty) no change for one (Alice) and a minimal decline for one (Diana) possibly as practitioners were sitting further away. By the end of the intervention compared with the baseline there was a noticeable phase mean level increase for one

participant (Clare), slight phase mean level increases for two (Alice and Betty) and a slight decline for one (Diana).

The PVCS showed score improvements on 'positive interaction' for two participants (Alice and Diana) after the onset of II and by end of the intervention for all four. The *Interactive Sequence* showed mode and/or range improvements for all participants by the end of the intervention as rated by both practitioners and observers. The *Physical Sociability Scale* mode and/or range improvements were more variable. Qualitative results both from the *Reflection Records* and the *Staff Questionnaires* as well as anecdotes suggested positive change.

There is tentative evidence of a functional link between the onset of II and changes in participant behaviour. It appears that II with novice practitioners has a positive impact on the communication and social abilities of people with PLD.

4.1.3 Hypothesis Three: II with novice practitioners will have a positive impact on the quality of relationship between them and people with PLD as perceived by the staff.

Qualitative results revealed some practitioners and observers thought II was having a noticeably positive impact on the relationship between the participants and at least some of the practitioners. All the practitioners and observers thought II should continue. The one practitioner who felt uncomfortable about their own involvement nevertheless acknowledged how the participant benefited with others.

There is tentative evidence of a functional link between the onset of II and a positive change in relationship between the practitioners and participants. It appears that II with novice practitioners has a positive impact on the quality of relationship between them and the people with PLD they support as perceived by staff.

4.2 Methodological Considerations

4.2.1 Design

This study is an adapted replication of Nind (1993) and Kellett (2001) in an alternative context albeit over shorter duration. Changes in practitioner behaviour were also explored and the timing of training was better tied to the end of the baseline. As such this study is an important contribution to the evidence base. The multiple methods aid triangulation and potentially strengthen claims to efficacy but were time-consuming both in terms of data collection and analysis. Unfortunately, the data were volatile. More frequent data-points over a much longer duration would have counterbalanced participant indisposition, practitioner absence or filming errors and allowed trend analysis (Kazdin, 1984; Morley, 1996). Three staff acted as practitioners and their data were combined. Individual differences would have been better examined separately but too few data-points precluded this. Although predicted, it is harder to claim a functional link to II for the behaviours that emerged later in the intervention. The intervention was too short to rule out the impact of weather/seasons. For Betty contemporaneous aromatherapy and music therapy were thought to have enhanced progress. Nind (1993) spent a year piloting procedures whereas this study had a few days. Unlike the participants and staff in Nind's and Kellett's studies the present ones were unused to filming as an everyday occurrence so the presence of the camcorder was a threat to validity.

4.2.2 Measures

A wider range of behaviour codes including 'no interaction' and stereotypy would have been preferable. Unfortunately this was beyond resources available. Other sources of variance such as session order, TV/radio on, use of toys/objects, the presence of others and physical position were uncontrolled for.

Progress on the PVCS was much less marked than Nind (1993) or Kellett (2001). As well as the inadequacy of multiple informants, a post-hoc discovery revealed procedural differences. In this study clinical practice was followed and informants were not given previous scores unlike the earlier studies. The change in SALT was unhelpful too. It is also possible that some of the initial responses were over-estimations (Samuel & Maggs, 1998). Nind and Kellett also found clear positive change on the Physical Sociability Scale. In the present study practitioners and observers gave more variable responses. Speculation about this includes: procedural differences as with the PVCS; respondent unreliability; idiosyncratic experience of the participant; misunderstanding of the schedule and practitioners being less facilitative of physical contact. In other studies with children hugging may have been considered more age-appropriate. Alternatively practitioners may not have deliberately sat close enough for it to occur, especially for the three participants with severe physical disabilities. *The Interactive Sequence* did not totally match the positive comments being reported in the *Reflection Records* or anecdotally. This measure has not been used much in research. Although it appeared to have face validity, its reliability as a measure of change in II had not been previously established. The *Staff Questionnaire* had not been piloted. Unfortunately repeated eponymous self-report measures are at risk of 'reactivity' when respondents know what the researcher is hoping to find.

4.2.3 Multiple-Baseline

The multiple-baseline across individuals in independent settings means there is some element of replication that serves to strengthen external validity (Cook & Campbell, 1979). The baseline length was pre-set, however stability was not achieved. Kellett & Nind (2001) suggests a maximum length could be pre-determined with flexibility to move off if stability is attained early. It is possible that practitioners started using principles of II during the baseline. Alternatively the instruction to interact 'as they normally do' in a context where staff did not usually spend even a few minutes in social interaction with the participant was in itself an

intervention. This was reported by Diana's practitioners and seemed apparent in Alice's results for 'looking at face' and 'engagement' in which there was a steep rise during the baseline. This was different from Nind's practitioners who were asked to provide the type of curriculum they would have used prior to the development of II: table-top activities or physiotherapy exercises, 'attempting to engage the subject in a positive interaction' (Nind, 1993, p.110). Both Nind and Kellett also noted interactive techniques creeping in especially with the participants on longer baselines, thus intervention was more clearly characterised by a change in level of intensity of approach rather than a completely novel method.

4.2.4 Reliability

The rigour of establishing good-enough intra-rater and inter-rater agreement protects internal validity. Kellett was the main coder for her research and used only one inter-observer agreement coder whereas Nind (1993) had a small team of coders. Kellett (2001) used an auditory system for noting individual seconds rather than a visual one on screen as Nind did. In the present study a combination of computerised time keeping, auditory and visual screen prompts were used. It is likely that human reaction time increased the error (Reeves, 1995). The present team of coders were neither highly skilled nor experienced and their intra and inter-rater agreements tended to be lower than Kellett 's but compared reasonably well with Nind's.

The BPS (2001) advises use of more than one informant in assessment of behaviour/social functioning. This is especially important for people with PLD where variable inter-rater agreement about behavioural and emotional states is found (Hogg, Reeves, Roberts & Mudford, 2001; Money & Collins, 1999; Reid, Everson & Green, 1999). It would have been interesting to analyse the videos together with the practitioners. It is possible that an actor-observer difference in attribution (Eiser, 1980) was occurring with the practitioners seeing themselves as responding more to the participants' behaviour than according to their own personal

style than perhaps it appeared to the coders. Also practitioners were not forewarned about the codes or what exactly would be evaluated in the *Reflection Records*.

4.2.5 Participants, practitioners and settings

More diverse cultural backgrounds and both genders would have been preferred. Only one practitioner was male. Alice and Diana had all-female staff teams to ensure same-gender personal care. As with Kellett (2001) in this study practitioner skill and prior experience were uncontrolled. Before the study five practitioners claimed to have had previous II training and six to be using it (Table 4). Seven observers claimed to have had previous training and nine to be using II (Table 5). The observers may have used II principles albeit without deliberate reflection.

HSTL involvement had not been actively sought in advance yet anecdotally seemed to make a difference. For example, Alice's sessions were planned into shifts and *Reflection Records* monitored. Hence her II sessions appear to have occurred more frequently than the other participants'.

Environmental manipulation such as the TV being switched off and the presence/engagement of co-tenants did not happen.

4.2.6 Number and order of sessions

Nind's (1993) skilled practitioners were required to interact at least twice a week for a school year. Kellett's (2001) novice practitioners offered daily sessions throughout the school year but these were not always undertaken as regularly as designed. In the present study three practitioners were to provide up to five

sessions per week between them, and the AP a session per week for only twenty weeks. Far fewer than this were recorded but more may have happened (Table 7). The order of sessions may have had a negative impact in terms of fatigue. The 'alone' condition occurring first usually may have resulted in the positive change in 'visual scanning' (Figure 7) with participants anticipating interaction from the presence of the AP and camcorder. A more randomised order would require even more data-points (Kazdin, 1982).

4.2.7 Practitioner Behaviour

Anecdotally Kellett (2001) noted dips in progress associated with negative changes in the psychological state of practitioners. This is in line with the literature about depressed caregivers (Carlson & Bricker, 1982; McCollom, 1984). In the present study personal information about practitioners was not collected but may have been relevant. Norris (2003) certainly coded 'neutral' and 'negative' experiences for some of the practitioners that may have been either related to external personal factors or to the discomfort of being filmed.

4.2.8 'Alone' condition

Kellett (2001) found many positive developments observed during II transferred to the classroom, although to a lesser extent, and progress was more variable. In this study the 'alone' condition was an inadequate test of the transfer of skills due to unavailability of potential communicative partners. When not in session practitioners were busy elsewhere and any co-tenants, if present, were not easy to communicate with.

4.2.9 Reflective practice

From the video data it was evident that practitioners were not always using principles of II even late in the intervention (Section 3.4.1). More immediate data analysis and/or copies of videos to provide feedback would have been desirable accompanied perhaps by more skilled supervision than the AP (who herself was a novice practitioner) could offer. Regular meeting of the three practitioners were not apparent and few attended the Support Groups. Kellett (2001) noted that her practitioners rarely reflected on their videos either.

4.3 Theoretical Context

4.3.1 Validity

BILD (2003) has recently included II as one of ten 'Factsheets' on its Website implying it has become 'mainstream' but Hogg (2002, p.293) notes that 'II is not alone in having been widely adopted by practitioners on a very limited evidence base'. Hogg cautions against the extrapolation from mothers and neurologically intact infants to professional practitioners working with neurologically impaired people without more consideration. It is not clear whether he means development may be in a different order or just at a different rate. Kellett (2001) found what seemed like unexpectedly rapid progress in development compared with the normal sequence but which on reflection she concluded implied the participants had communication potential but the social environment had been previously unresponsive (Ware, 1996). In this study Alice's rapid progress even during the baseline seemed to indicate that too. II research does not yet appear to have found an unusual order of social and communication development despite varying aetiologies and impairments of participants.

A positive impact on social inclusion has been inferred from improvements in the quality of relationship between participants and practitioners. Whether II can actually lead to increased social inclusion beyond an intimate circle of carers and even peers (Kellett, 2001) remains to be seen.

Whilst the present study's tentative results do not strongly support the positive effect of II facilitated by home-support staff as novice practitioners, it would be unfair to say the limited improvement indicates that II does not work given the threats to validity of participant indisposition, variable practitioner availability and skill, the shorter intervention phase and fewer sessions compared with previous studies (cf. Nind and Kellett). Procedural difficulties related to camera angle and microphone power had an impact too.

4.3.2 Generalisability

This study was concerned with the efficacy of II in a particular setting with a small non-random sample. Thus effectiveness cannot be generalised to individuals with different disabilities elsewhere. Nevertheless Roth, Fonagy and Parry (1996) note that whilst the discovery of new interventions eventually require formal randomised controlled evaluation, in practice this is preceded by a phase of case series evaluation with relatively less stringent methodology but more constrained resources aimed at developing the theory and practice of the technique. Research on II may be considered to be at this stage.

4.4 Implications for clinical practice

Alice's HSTL showed that using a type of 'Active Support' (Jones *et al.*, 1999): putting sessions in the diary with named practitioners and monitoring outcome led to the most *Reflection Records* being completed and

anecdotally to positive change. The other teams were also positive about progress even with fewer sessions apparently occurring and with little feedback, as yet, from the research data. This is similar to Atkins *et al.* (2002) who found enthusiasm for II despite little objective data. Competing service demands to begin, sustain and monitor II need to be addressed. Caldwell (2002) shows what an expert II practitioner can achieve in a matter of hours. An adequate staff: client ratio and planned time to participate, keep records, attend training and receive/give supervision is essential (Irvine 2001; Kellett, 2001). Empowering unqualified support staff as practitioners does not mean they can or will internalise all the principles of II. Nind *et al.* (2001) found practitioners asked to submit good examples of II were not always using features of 'motherese' (Weistuch & Byers-Brown, 1987) and in a study of self-selected samples of successful conversations between staff and people with PLD, Clegg, Standon and Cromby (1991) found very low levels of positive client response, and identified a need for staff to fine-tune their attempts at interaction. II illustrates what this fine-tuning might look like with sufficient reflective practice. Adequate supervision is important to maintain momentum and encourage experimentation, for example, Diana's practitioners perhaps could have tried mirroring vocalisation as well as movement (Section 3.4.1.1) and thence 'expanding' and 'elaborating' (Clark & Seifer, 1983). A sophisticated approach, though impractical in community living settings, would be live supervision through a one-way screen with earpiece.

The use of II is promoted in the new national qualifications for support staff (Carnaby, 2002) thus providing another source of motivation and supervision. With appropriate consent, edited portions of this study's videos could be used in training. Caldwell (2002) is the first published training video focussing exclusively on II, and SKILL (2002) also contains some examples. As II record keeping was found to be sparse in this study (Table 7), being more specific in requirements (Norris, 2003) might help and also prompt practitioners to use principles they overlook. However, such a task-orientated approach has been advised against by expert practitioner/researchers (Nind & Hewett, 1994). Alternatively II could be included in any person-centred planning 'learning log' (Smull & Harrison, 1992) that teams are required to complete.

In a person-centred service (DoH, 2001a) carers are recruited to match the client. The practitioners in this study were volunteers to formal II although they were already supporting the participants. All the practitioners and the observers were willing to participate in II in the future, although one practitioner and two observers expressed discomfort at continuing formal externally scrutinised sessions. Recruitment of carers with successful prior experience of infants/young children *may* be an advantage in terms of appreciation of the developmental model, however, in this study, most practitioners claimed experience of caring for babies (Table 4). Retaining experienced staff with strong attachments to clients is helpful, so services need to reduce turnover. Smaller cohesive teams ought to enable less variable practice although the *Staff Questionnaire* results in this study pointed to highly idiosyncratic experience even within small teams.

Locally, managers had embraced II as useful (Section 1.3.4), however such support is not inevitable. An organisation must also consider how to maintain momentum and monitor developments (Kellett & Nind, 2003).

4.5 Implications for further research

This exploratory study provides many valuable pointers to what would need to be addressed in a more rigorous evaluation of II. Researching II mirrors all the difficulties of multi-component psychotherapy process research where it is a challenge to control all the variables. However in psychotherapy research an adequate level of practitioner expertise is assumed. There have been few comparisons between II and alternative interventions designed to enhance communication and social abilities of people with PLD except classroom experience (Watson & Fisher, 1998) and 'proximity' (Lovell *et al.*, 1998). It is easier to seize on elements that are do-able but which unfortunately offer a weak imitation of the approach (e.g. Jones &

Williams, 1998). Access to more sophisticated technology such as digital cameras; sensitive microphones and split screens as used with caregiver-infant research would enhance analysis. With more comprehensive data, sequential analysis would be possible too (Bakeman & Gottman, 1997). The impact of the research process itself must not be underestimated. In this study, Diana's HSTL was surprised that the sessions revealed anything as they were pre-planned which seemed false, and some practitioners thought being filmed adversely affected their performance, although the opposite may also have been the case. The goal of II is informal 'interactivity' (Nind & Hewett, 1998; Section 1.3.1) but researching this would be even harder than evaluating formal sessions.

Cultural and cross-gender differences in touch, eye contact and proximity in II would be usefully explored. A comparison of the use of II across a wider range of settings: family homes, college and other day services would be interesting too. The impact on social image of the use of II in public requires further investigation, as does its impact on social inclusion beyond practitioners. Differences in practice depending on the age of participants might be usefully explored. Practitioners in this study rarely appeared to use traditional interactive games (Section 1.3.1). It is unclear if this was active reluctance because of participant age or other reasons or lack of expertise. More research is required on what enhances and maintains practitioner skill. What is considered to be minimum requirements for good enough II practice needs exploration. Longitudinal follow-up with the same practitioners and generalisation to other carers and the wider community would be fascinating. Any developing repertoire of communication and social abilities would need to be tracked as well as blocks to progress illuminated.

With appropriate consent/agreement and resources this study's data could be subject to further analysis using more behavioural codes. Unfortunately given the limited data any further findings concerning the practitioners would remain tentative. In the meantime, the potentially more robust AP data are currently being analysed and will be compared with those of the staff.

5.0 CONCLUSIONS

This exploratory study evaluated the impact of II facilitated by home-support staff as novice practitioners on the communication and social abilities of the people with PLD they support and on the quality of their relationships. The tentative findings complement the existing evidence base about communication and social ability development for people with PLD through II via partial replication in another context. They add to the knowledge base about practitioner skill and about the quality of relationship between participants and practitioners as perceived by staff.

In this study the challenges of real-world research are apparent. Participant indisposition, practitioner absence and recording inadequacy all diminished the amount of usable data. Nevertheless replication with more attention to practitioner skill, a longer duration and across other settings would be useful. 'The use of quasi-experimental design will always by its very nature permit alternative interpretations as a result of confounding variables... [However]... a series of quasi-experiments may permit greater and greater confidence in the results obtained' (Glynn Owens *et al.*, 1996, p.247). Despite implementation difficulties this study indicates that the development of social inclusion for adults with PLD in community living and related settings may benefit from further exploration using more rigorous research strategies.

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APPENDIX 1.

Information Sheet

[headed paper]

Intensive Interaction Research Information Sheet for Staff, Family/Advocates and GPS

This information Sheet describes the Intensive Interaction Research Project that it is hoped that ..... will be taking part in. Intensive Interaction involves staff interacting in a similar way to how parents or other caregivers interact with infants and reflecting on what is happening. Published literature shows that this intervention is useful for people with profound learning disability but it has not been studied much in home settings. In this study the impact of participating in regular Intensive Interaction sessions on the behaviour of four people with profound learning disability living in Trust supported houses will be evaluated. Approval for this study has been gained from the [County] Psychiatric Research Ethics Committee and the Trust Research & Development Group.

Three members of .....'s Home Support Team and an Assistant Psychologist will be the Practitioners (i.e. participate in Intensive Interaction) and three other staff will be "Observers" (i.e. comment on progress throughout the study). Videos of sessions will be made for analysis and staff will be asked about their view of changes in .....'s behaviour. Staff will also be asked about the impact on the quality of their relationship with ..... too. Staff will be able to watch the videos if they want to. If they want any of the tape wiped after the study this can be done.

The Study will start in Autumn 2001 and end in Spring 2002. It is in three phases.

1. Pre Baseline phase

In this phase staff and service user participants will be identified and behaviours for coding on the video will be worked out.

2. Baseline Phase. This phase will last six weeks.

a) At the beginning and end of the baseline phase

- Participating staff will complete a very brief questionnaire on their views on interaction with ..... now.
- A Speech & Language Therapist will complete a *Preverbal Communication Schedule (PVCS)*; [Author] will complete an *Interactive Sequence* and a *Physical Sociability Scale*. All these schedules will be completed with information from the Home Support Team.

b) ..... will be filmed in the lounge "alone" (i.e. with no one specifically with him/her to interact with). This will happen for five minutes once a week for four weeks then again at the end of the Baseline Phase.

c) The three "Practitioners" and the Assistant Psychologist will interact with ..... as they normally do. Once a week, one of them (depending on rota) and ..... will be filmed doing this for five minutes.

d) The Home Support Team will contribute to a Historical Log (i.e. to note significant life events/changes for ..... This may best be done as part of the participant's diary).

e) The three support staff "Practitioners" and the Assistant Psychologist will received one half day Introductory training in Intensive Interaction.

3. Intervention Phase: Intensive Interaction. This phase will last twenty weeks.

a) Scheduled Intensive Interaction Sessions (five times per week) will be offered to ..... by the "practitioners" (depending on rota) and the Assistant Psychologist (once a week). ..... is always free to choose whether to take part in any session.

b) "Practitioners" and the Assistant Psychologist will keep session records as often as is practical.

c) "Practitioners" will reflect on progress with each other and with the Assistant Psychologist. (NB Intensive Interaction Peer supervision Groups will be available locally).

d) ..... will be filmed in the lounge "alone" for five minutes once a week for four weeks then fortnightly for the remainder of the Intervention Phase.

e) Five minutes of one Intensive Interaction session per week will be filmed for four weeks then fortnightly for the remainder of the Intervention Phase.

f) The Historical Log will continue.

g) Twice during the Intervention Phase- i.e. after six weeks and again at the end:

i. Staff will complete a very brief questionnaire on their views on interaction with ..... now.

ii. A *Preverbal Communication Schedule* (PVCS), an *Interactive Sequence* and *a Physical Sociability Scale* will also be completed.

WHAT WILL HAPPEN TO THE RESULTS AFTERWARDS?

- The results will be shared with staff supporting ..... If positive, the Home Support Team will be encouraged to continue with Intensive Interaction with support from the CTPLD and opportunities to attend supervision. Training will be available for any "Observers" and other staff/carers who want it.
- Results (presented anonymously) will be shared in relevant places within the Service.
- The study is in part to fulfil the requirements of my Doctoral Course in Clinical Psychology.
- The results (presented anonymously) may be used in publications or to teach about Intensive Interaction.

PARTICIPATION

- If you agree with ..... taking part in the project please fill in the **Agreement Form** attached.
- If you wish to take part in the study as a Practitioner please fill in the **Consent Form for Intensive Interaction Practitioners** attached (one form per member of staff).
- If you wish to take part in the study as an Observer please fill in the **Consent Form for Intensive Interaction Observers** attached (one form per member of staff).

Please return relevant forms to [author], via [HSTL] or by sending it to the Psychology Dept at Slade House. If you don't fill in the form, you won't be asked to take part. If you fill in the form and decide later on that you don't want to (or can't) take part, please let [author] know.

Thank you very much.

[Author] [Date]

APPENDIX 2.

Participant Agreement Form

Headed Paper]

AGREEMENT FORM FOR THE PARTICIPATION IN RESEARCH BY AND THE MAKING AND USE OF AUDIO-VISUAL RECORDINGS OF PEOPLE WHO CANNOT GIVE INFORMED CONSENT BECAUSE OF THE EXTENT OF THEIR LEARNING DISABILITIES

Person's name: - Date of Birth: -

Location of Research/Videotaping: -

Please tick	✓
We accept that as a consequence of the degree of their learning disability, the above named person is unable to give informed consent to participating in research.	
We accept that as a consequence of the degree of their learning disability, the above named person is unable to give informed consent to being videotaped.	
We agree that the above named person may participate in the Intensive Interaction research study as outlined on the attached Information Sheet.	
We understand the procedures proposed and we agree that they are unlikely to harm the person.	
We understand that the person is free to bring about a termination or an extension of each interaction session whether or not it is being videotaped.	
We understand that the research project will be stopped if it becomes clear that it is causing distress to the person.	
We agree for videotapes to be made of the above named person both "alone" and during interaction sessions as outlined on the Information Sheet.	
We understand that these videos will be used for the purposes of research into Intensive Interaction **only** as outlined in the Information Sheet.	
We understand that the material on the relevant videotapes will be deleted after completion of the research study **unless** we are contacted again for further agreement (e.g. for the use of any videotapes in staff training).	

Please delete as applicable and sign and date where required

I agree/disagree with the above statements.

_____

Home Support Team Leader Date_____

I agree/disagree with the above statements.

_____

Parent/carer/advocate (where applicable) Date_____

_____ [Author] (Researcher) Date_____

Please put a copy of this Agreement and the accompanying Information Sheet in the following places: 1. Person's file at the house. 2. CTPLD file 3. Psychology File (via [Author])

APPENDIX 3.

Practitioner Consent Form

[Headed paper]

CONSENT FORM FOR THE PARTICIPATION IN RESEARCH BY AND THE MAKING AND USE OF AUDIO-VISUAL RECORDINGS OF PEOPLE WHO CAN GIVE INFORMED CONSENT

Person's Name_____ Address_____

Intensive Interaction Research. Staff acting as Intensive Interaction Practitioners with .....

I have read and understood the Information Sheet about the Intensive Interaction Research project.

I agree to take part in the project as a practitioner. I agree to **(Please tick)**:	✓
Complete a brief questionnaire about myself and about my experience of work with people with Learning Disability.	
Interact with ..... as normal during the Baseline Phase.	
Attend a half day Introductory Workshop on Intensive Interaction	
Read The Trust Good Practice Guidelines on Intensive Interaction (after the training)	
Take part in regular Intensive Interaction sessions with ..... during the Intervention Phase.	
Complete Intensive Interaction Session reflection Forms when I participate in sessions.	
Contribute to a Historical Log (daily records about .....'s life).	
Contribute to Assessments completed twice during the Baseline Phase and twice during the Intervention Phase (PVCS, Interactive Sequence Scale, and Physical Sociability Scale).	
Reflect on the Intensive Interaction Sessions (with colleagues).	
Complete a brief questionnaire about how I interact with the people I support and about how I think the project is going (four times).	

I consent to being videotaped during interaction with ..... for the purpose of this research project only.	
I understand that I will be able to watch the videos if I want to.	
I understand that at the end of the study the videotapes I am on will be deleted unless I am contacted again for separate consent (e.g. for their use for teaching purposes).	

Signed: ..... Date: .....

Print name:.....

Please return to: [Author, Address, Telephone, Pager]

APPENDIX 4.

OBSERVER CONSENT FORM

[Headed paper]

CONSENT FORM FOR THE PARTICIPATION IN RESEARCH BY AND THE MAKING AND USE OF AUDIO-VISUAL RECORDINGS OF PEOPLE WHO CAN GIVE INFORMED CONSENT

Person's Name_____ Address_____

Intensive Interaction Research. Staff acting as Intensive Interaction Observers with NM

I have read and understood the Information Sheet about the Intensive Interaction Research project.

I agree to take part in the project as an Observer and I agree to **(Please tick)**:	✓
Complete a brief questionnaire about myself and about my experience of work with people with Learning Disability.	
Interact with ..... as normal throughout the Project.	
Contribute to a Historical Log (daily records about .....'s life).	
Contribute to Assessments completed twice during the Baseline Phase and twice during the Intervention Phase (PVCS, Interactive Sequence Scale, and Physical Sociability Scale).	
Complete a brief questionnaire about how I interact with the people I support and about how I think the project is going (four times).	

Please sign and date where required

Signed: ..... Date: .....

Print name:.....

Please return to: [Author, Address, Telephone, Pager]

APPENDIX 5.

BEHAVIOUR CODES FOR VIDEO ANALYSIS (STAFF)

1. Mirroring Vocalisation or movement

Responsive in a way that involves reflecting an aspect of the person's behaviour, vocalisation or facial expression.

2. Contingent Responding

Example	Operational Definition	Notes to assist coding
Contingent vocalisation	Practitioner vocalising at the same time or very quickly after the participant. Practitioner vocalisation will not be an imitation or of a similar kind to the participant's.	
Contingent speech	Nouns and verbs related to the immediate situation and action	May be commenting/questioning
Imitates/joins in vocals	Practitioner vocalising at the same time or soon after the participant vocalises. Practitioner vocalisation linked in kind as well as timing to participant's vocalisation (need not be exactly the same)	Joining in may involve vocalising in unison or in turn. Imitation may be of the participant's pitch, rhythm, melodic contour
Imitates expression	Imitates expression at the same time or soon after the participant	
Imitates gesture	Imitates gesture at the same time or soon after the participant	
Expanding	Responsive in a way that involves mirroring an aspect of the participant's behaviour and adding a variation	
Elaborating	Comment on behaviour interpreting intent	
Contingent expression		
Contingent gesture		

3. Forcing and overriding

Example	Operational Definition	Notes to assist coding
Forcing	Demanding in interaction	e.g. turning head of participant
Overriding	Intrusive in interactions, interrupting the flow of the participant's activity with a requirement for a different behaviour or activity	

Clark & Seifer (1983); Nind *et al.* (2001).

APPENDIX 6.

BEHAVIOUR CODES FOR VIDEO ANALYSIS (PARTICIPANT)

Code	Operational Definition	Notes to assist coding
Looking at/towards practitioner's face/eye contact	Looking towards/turning face towards	Diana: out of corner of eye
Joint focus/activity	Practitioner and participant looking at the same thing, the participant having shown awareness of this act of sharing	Look to see where the other person's gaze was directed
Initiating social physical contact	Touch, hand grab, leaning against initiated by participant	
Engagement (Nind *et al.*, 2001 page 149)	*State of intellectual and social arousal in participant functionally related to behaviour of the practitioner. Participant experiencing pleasure. Participant's readiness/expectancy/ awareness regarding the potential of the other person to cause affect.*	*Indicator of the quality of the interaction process. Should be no doubt that engagement has occurred. Arousal should be more than fleeting. Should feel that the participant is fully attending to the practitioner (after Nind, 1996).* May involve looking at practitioner's body not face Exchange may be in vocalisation or gesture. Includes joint focus. When becoming disengaged- facial expression changes markedly to expression assumes when alone. Not included engagement with someone/thing other than practitioner
Visual scanning	Looking out into the room Head upright	Alice: blinking head turning slowly enough to focus Betty: Not looking at floor ceiling hands or objects Clare: Hands not in front of face Diana: May be out of corner of eye.

APPENDIX 7.

Nind's II Workshop

<u>Introduction to myself and to the day</u>
Introduction from participants – their levels of familiarity with II, what they want from the day and the challenges they face in interacting and communicating with their clients.
Share a video of an adult with SLD who is difficult to engage to focus us on the challenge.

A brief history of II and its rationale (input).
Learning some practice principles from caregiver-infant interaction (video and small group activity).

Putting the principles into action with adults with SLD/PMLD (input and illustrative video).

Some clarification of the aims of II (input).
What happens to the ideal interactive model when one partner is severely disabled; re-establishing a positive interactive cycle (video illustrations and discussion).
Question and answer on the content of the morning.

Participants' response to II – what would enable or hinder them from using the approach (group activity)
The impact of using II (illustrative case studies).
Ethical and practical issues (e.g. age-appropriateness, bonding, team work).

Doing what comes naturally and enhancing it (input).
Using the theory and structure of II to inform practice.
Recording and reflecting.

Moving out (small group work and plenary).
- What from the day can we use?
- Where and how might we start?
- How can we ensure ongoing support?

Conclude by re-visiting the young man in the opening video.

APPENDIX 8.

HISTORICAL LOG

1. *Has..... been ill and/or had any changes in medication/PRN this week?*

2. *Have there been any major external changes/occurrences/life events that may have affected..... this week?*

3. *Has ..... behaved differently at home/elsewhere this week?*

4. *Any other information that it may be useful for the researcher to know.....*

APPENDIX 9.

REFLECTION RECORD

APPENDIX ONE: RECORD FORM ONE (MINIMAL PROMPTS)

INTERACTION DAILY RECORD

Interaction partners:

Date and time: duration:

Place and situation:

What happened? (describe the sequence)

What was significant? (new, different, possibly progress)

How did it feel? (my response and performance)

Other comments

APPENDIX 10.

STAFF LETTER AND QUESTIONNAIRE (EXAMPLE)

[headed paper]
Date
Address

Dear

Re: Intensive Interaction Research. Questionnaire III

Thank you very much for taking the trouble to complete the first and second questionnaires at the beginning and end of the baseline. Please find enclosed a copy of the third questionnaire to be completed six weeks into the Intervention Phase. These are one each for the three "practitioners" and the three "observers" to fill in separately and *as near as possible to the week* of_____. I am very interested in everyone's perceptions.

NB I have included an extra question for practitioners about the Intensive Interaction Support Groups.

I am available to visit on _____ at_____ discuss further. Otherwise please contact me before then: [telephone number] or on pager [number].

Thank you all very much.

Yours sincerely

[Author]

INTENSIVE INTERACTION RESEARCH QUESTIONNAIRE THREE

Please could all "practitioners" and "observers" complete all parts of this form as near as possible to the week beginning_____ Any concerns/questions please contact [Author] . NB she will be visiting on_____

Name of service user_____
Name of staff member/carer completing the form_____
Date form completed_____

1. What stage would you say _____ is *in general* with social interactive techniques *this week[or recently if I have been away/on nights])*? *(Please tick all stages that you think apply from your experience of _____)*

	STAGE (please ✔)	Example given from interaction with massage. *However please think of other kinds of interaction appropriate with*
1.	**Resists**	If the individual resists you touching her/his foot, for example, stroke or touch a part of the body which you know is enjoyed, for example, the person's hand. Return to the foot once the individual again feels comfortable.
2.	**Tolerates**	The individual allows you to touch her/his foot briefly, extending to a longer period, generally because she/he finds the one-to-one contact, rather than the touch itself, agreeable.
3.	**Co-operates passively**	The individual at this stage will allow her/his foot to be massaged for longer periods; the helper generally notices a difference in response as the person lessens their resistance.
4.	**Enjoys**	The individual relaxes – may still be passive but perhaps smiles while foot is being stroked.
5.	**Responds co-operatively**	The person smiles, needs little encouragement and may proffer a foot when reached for or the oil is shown.
6.	**Leads**	The individual begins to anticipate the activity, what will happen next, and so on. Will proffer a second foot for massage on completion of the first.
7.	**Imitates**	The person may imitate strokes/massage on helper's foot, particularly if encouraged to do so.
8.	**Imitates independently**	The individual will imitate the activity without prompting; mutual or reciprocal massage may be introduced.

2. Physical closeness during social interaction. What stage would you say _____ is *in general* with physical closeness during social interaction? *(Please tick the response that you think most applies from your experience of_____ this week [or recently if I have been away/on nights])*

	General response	**Please ✔**
1	**Actively** resists being held (e.g. stiffens, thrashes, pushes away)	
2	Resists being held ***most*** but ***not all*** of the time	
3	Does not resist being held but *does not participate* either (lies passively)	
4	Will ***eventually*** relax and mould into being held, but only after a lot of encouragement	
5	Will ***usually*** relax and mould when ***first*** held	
6	***Always*** relaxes and moulds when ***first*** held	
7	Relaxes moulds and ***actively turns head towards*** interactive partner	
8	***All the above plus*** initiates physical contact such as clinging or grasping	

3. What expectation do you have *now* about Intensive Interaction for _____?

4. What expectations do you have *now* about Intensive Interaction for the staff team as a whole?

Question 5. For Intensive Interaction Practitioners only

Name of Service User_____

Your Name_____

Have you been able to attend an Intensive Interaction Support Group?

Yes/No (please circle)

If no -What stops you? And how might arrangements be changed so that you might be able to attend?

If yes -What did you think of it and how might it be improved to make it more useful for you?

Completed forms will be collected either by [Author] on_____or by [AP] during the following week.

Many thanks [Author]

APPENDIX 11.

LOCAL PSYCHIATRIC RESEARCH ETHICS COMMITTEE PERMISSION LETTER

NHS Trust

Ref: /Imp/O01.023

Ms Judith Samuel
Consultant Clinical Psychologist
NHS Trust

Dear Ms Samuel 5 July 2001

Re: O01.023 – The impact of Intensive Interaction on the quality of the relationship between adults with profound learning disability living in community settings and the staff who support them.

I enclose a copy of the indemnity letter that we have received duly signed from the NHS Trust who are providing indemnity for the above study. I can now confirm final approval and wish you every success with your study.

Yours sincerely

Mrs
PREC Administrator
Psychiatric Research Ethics Committee

Encl.